

SEQUENCE LIST

<110> CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

<120> EXPRESSION SYSTEMS OF TOXIC PROTEINS, VECTORS
AND PROCESS FOR MANUFACTURING TOXIC PROTEINS

<130> B14143 EE

<140>

<141>

<150> FR N 02 11676

<151> 2002-09-20

<160> 53

<170> PatentIn Ver. 2.1

<210> 1

<211> 37

<212> PRT

<213> Hepatitis C virus

<400> 1

Met Ile Ala Gly Ala His Trp Gly Val Leu Ala Gly Ile Ala Tyr Phe
1 5 10 15

Ser Met Val Gly Asn Trp Ala Lys Val Leu Val Val Leu Leu Leu Phe
20 25 30

Ala Gly Val Asp Ala
35

<210> 2

<211> 31

<212> PRT

<213> Hepatitis C virus

<400> 2

Met Glu Tyr Val Val Leu Leu Phe Leu Leu Leu Ala Asp Ala Arg Val
1 5 10 15

Cys Ser Cys Leu Trp Met Met Leu Leu Ile Ser Gln Ala Glu Ala
20 25 30

<210> 3

<211> 111

<212> DNA

<213> Hepatitis C virus

<400> 3

atgatcgctg gtcctcactg ggggtgttctg gctggtatcg cttactctc tatggttggt 60
aactgggcta aagtctggt tgttctgctg ctgttcgctg gtttgacgc t 111

<210> 4

<211> 93

<212> DNA

<213> Hepatitis C virus

<400> 4
atggaatacg ttgtctgct gttcctgctg ctggctgag ctcgtgttg ctctgcctg 60
tggatgatgc tgctgatctc tcaggctgaa gct 93

<210> 5
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pT7-7

<400> 5
gggaatgccca tatgatcgct ggtg 24

<210> 6
<211> 23
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (-) of insertion into pT7-7

<400> 6
gcatatcgat ctaagcgta aca 23

<210> 7
<211> 131
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: TME1 coding sens DNA
+ 3' cla I site

<400> 7
atgccatag atcgctggtg ctcaactgggg tgttctggct ggtatcgctt acttctctat 60
ggttgtaac tgggctaaag ttctggtgt tctgctgctg ttcgctggtg ttgacgctta 120
gatcgatag c 131

<210> 8
<211> 131
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: anticodant sens DNA
+ 5' cla I site

<400> 8
gcatatcgat ctaagcgta acaccagcga acagcagcag aacaaccaga acttagccc 60
agttaccaac catagagaag taagcgatac cagccagaac accccagtga gcaccagcga 120
tcatatggca t 131

<210> 9
<211> 74

<212> DNA
<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
coding sens oligonucleotide for the synthesis of
TME1

<400> 9
atgccatatg atcgctgggtg ctactgggg tgtctggct ggtatcgctt acttctctat 60
ggttggaac tggg 74

<210> 10
<211> 79
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
anticoding sens oligonucleotide for the synthesis of
TME1

<400> 10
gcataatgat ctaagcgtca acaccagcga acagcagcag aacaaccaga acttagccc 60
agttaccaac catagagaa 79

<210> 11
<211> 22
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pGEXKT without
the dp site

<400> 11
ggatccatgg aatacgttgt tc 22

<210> 12
<211> 28
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pGEXKT with
the dp site

<400> 12
ggatccgacc cgatggaata cgtgttc 28

<210> 13
<211> 23
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:

oligonucleotide (-) of insertion into XKT

<400> 13

gaattcctaa gcttcagcct gag

23

<210> 14

<211> 27

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:

oligonucleotide (+) of transfert onto pET32a

<400> 14

gtgatatctg atctgtctgg tgggtgt

27

<210> 15

<211> 26

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:

oligonucleotide (+) of insertion into pT7-7

<400> 15

cgcataatgga cccgatcgct ggtgct

26

<210> 16

<211> 24

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:

oligonucleotide (-) of insertion into pT7-7

<400> 16

gaattcctaa gcgtcaacac cagc

24

<210> 17

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:

oligonucleotide (+) of insertion into pT7-7

<400> 17

catatggaat acgttggtc

19

<210> 18

<211> 28

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
oligonucleotide (-) of insertion into pT7-7

<400> 18

aagcttaagc ttcagcctga gagatcag

28

<210> 19

<211> 103

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: sens DNA
coding TME2 + 5' Nde I site and 3' Hind III site

<400> 19

catatggaat acgtgttct gctgttctg ctgctggctg acgctcgtgt ttgctcttgc 60
ctgtggatga tgcgtctgat ctctcaggct gaagcttaag ctt 103

<210> 20

<211> 103

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: sens DNA
anticoding TME2 + 3' Nde I site and 5' Hind III site

<400> 20

aagcttaagc ttcagcctga gagatcagca gcatcatcca caggcaagag caaacacgag 60
cgtcagccag cagcaggaac agcagaacaa cgtattccat atg 103

<210> 21

<211> 68

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
sens oligonucleotide (+) coding for the synthesis
of TME2

<400> 21

catatggaat acgtgttct gctgttctg ctgctggctg acgctcgtgt ttgctcttgc 60
ctgtggat 68

<210> 22

<211> 57

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
sens oligonucleotide (-) coding for the synthesis
of TME2

<400> 22

aagcttaagc ttcagcctga gagatcagca gcatcatcca caggcaagac gaaacac 57

<210> 23
<211> 19
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pGEXKT without
the dp site

<400> 23
ggatccgaat acgttggtc 19

<210> 24
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pGEXKT with
the dp site

<400> 24
ggatccgacc cggaatacgt tggtc 25

<210> 25
<211> 30
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (-) of insertion into pGEXKT with
the dp site

<400> 25
gaattcttaa gcttcagcct gagagatcag 30

<210> 26
<211> 27
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
oligonucleotide (+) of insertion into pT7-7

<400> 26
cgcatatgga cccggaatac gttgttc 27

<210> 27
<211> 27
<212> DNA
<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
oligonucleotide (-) of insertion into p17-7

<400> 27

cagaattcct aagcttcagc ctgagag

27

<210> 28

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: end of the
GST followed by the thrombine site

<400> 28

Ser Asp Leu Ser Gly Gly Gly Gly Leu Val Pro Arg Gly Ser

1 5 10 15

<210> 29

<211> 717

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: DNA
coding for GST protein in the pGEXKT vector

<400> 29

atgtcccta tactaggta ttgaaaatt aagggccttg tgcaaccac tcgacttctt 60
ttggaataatc ttgaagaaaa atatgaagag catttgatg agcgcgatga aggtgataaa 120
tggcgaaaca aaaagtttga attgggttg gagtttccca atcttccta ttatattgat 180
ggtgatgta aattaacaca gtctatggc atcatagctt atatactga caagcacaac 240
atgttgggtg gttgtccaaa agagcgtgca gagattcaa tgctgaagg agcgggtttg 300
gatattagat acggtgttcc gagaattgca tatagtaaag actttgaaac tctcaaagt 360
gattttcta gcaagctacc tgaaatgctg aaaatgttcg aagatcgtt atgcataaa 420
acatatata atggtgatca tgtaacccat cctgacttca tttgtatga cgctcttgat 480
gtgttttat acatggacc aatgtgcctg gatgcgttcc caaaattagt ttgttttaa 540
aaacgtattg aagctatccc acaaattgat aagtacttga aatccagcaa gtatatagca 600
tggccttgc agggctggca agccacgttt ggtggtggcg accatcctcc aaaatcgat 660
ctgtctggtg gtggtggtgg tctggtccg cgtggatccc cgggaattca tcgtgac 717

<210> 30

<211> 327

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: DNA
coding for the thioredoxine in the pET32a+ vector

<400> 30

atgagcgata aaattattca cctgactgac gacagtttg acacggatgt actcaaagcg 60
gacggggcga tcctcgtcga ttctgggca gagggtgctg gtccgtgcaa aatgatcgcc 120
ccgattcttg atgaaatcgc tgacgaatat cagggcaaac tgaccgttg aaaactgaac 180
atcgatcaaa accctggcac tgcgccgaaa tatggcatcc gtggtatccc gactctgctg 240
ctgttcaaaa acggtgaagt ggcgggaacc aaagtgggtg cactgtctaa aggtcagttg 300
aaagagtcc tcgacgctaa cctggcc 327

<210> 31
<211> 4969
<212> DNA
<213> Artificial sequence

<220>

<223> Description of the artificial sequence: plasmide
expressing pGEXKT

<400> 31

acgttatcga ctgcacgggtg caccaatgct tctggcgtca ggcagccatc ggaagctgtg 60
gtatggctgt gcaggtcgta aatcactgca taattcgtgt cgctcaaggc gcactcccgt 120
tctggataat gtttttgcg ccgacatcat aacggttctg gcaaatattc tgaatgagc 180
tgttgacaat taatcatcgg ctctgataat gtgtggaatt gtgagcggat aacaatttca 240
cacaggaaac agtattcatg tcccctatac taggttattg gaaaattaag ggccttgtgc 300
aaccctctcg acttcttttg gaatatcttg aagaaaaata tgaagagcat ttgtatgagc 360
gcatgaagg tgataaatgg cgaacaaaa agtttgaatt gggtttgag ttcccaatc 420
ttccttatta tattgatggg gatgttaaat taacacagtc tatggccatc atacgttata 480
tagctgacaa gcacaacatg ttgggtggtt gtccaaaaga gcgtgcagag atttcaatgc 540
tgaaggagc ggttttggat attagatacg gtgttcgag aattgcatat agtaaagact 600
ttgaaactct caaagttgat ttcttagca agctacctga aatgctgaaa atgttcgaag 660
atcgtttatg tcataaaaca tatttaaatg gtgatcatgt aaccatcct gacttcagt 720
tgtatgacgc tcttgatgtt gttttataca tggacccaat gtgcctggat gcgtcccaa 780
aattagtttg ttttaaaaaa cgtattgaag ctatccaca aattgataag tacttgaat 840
ccagcaagta tatagcatgg cctttgcagg gctggcaagc cacgtttggt ggtggcgacc 900
atcctccaaa atcggatctg tctggtggtg gtggtggtct ggttcgcgt ggatccccgg 960
gaattcatcg tgactgactg acgatctgcc tcgcgcgtt cggtgatgac ggtgaaacc 1020
tctgacacat cgagctcccg gagacggtca cagcttctgt gtaagcggat gccgggagca 1080
gacaagcccg tcaggcgcg tcagcgggtg ttggcgggtg tcggggcgca gccatgacc 1140
agtcacgtag ctagacgga gtgtataatt ctgaagacg aaaggcctc gtgatacgcc 1200
tattttata ggttaatgtc atgataataa tggtttcta gacgtcaggt ggcacttttc 1260
ggggaaatgt gcgcggaacc cctattgtt tattttcta aataattca aatatgtatc 1320
cgctcatgag acaataaccc tgataaatgc ttcaataata tgaaaaagg aagagtatga 1380
gtattcaaca ttccgtgtc gcccttattc cttttttgc ggcattttgc ctctctgtt 1440
ttgctcacc agaagcgtg gtgaaagtaa aagatgctga agatcagttg ggtgcacgag 1500
tgggttcat cgaactggat ctaacacgag gtaagatcct tgagagtttt cgccccgaag 1560
aacgtttcc aatgatgagc acttttaag ttctgctatg tggcgcggtg ttatcccgtg 1620
ttgacgccg gcaagagcaa ctggtcgcc gcataccta ttctcagaat gacttggtg 1680
agtactcacc agtcacagaa aagcatctta cggatggcat gacagtaaga gaattatgca 1740
gtgctgccat aacctgagt gataacactg cggccaactt acttctgaca acgatcggag 1800
gaccgaagga gctaaccgct ttttgcaaca acatggggga tcatgtaact cgccttgatc 1860
gttgggaacc ggagctgaat gaagccatac caaacgacga gcgtgacacc acgatgcctg 1920
cagcaatggc aacaacgttg cgcaactat taactggcga actacttact ctgcttccc 1980
ggcaacaatt aatagactgg atggaggcgg ataaagtgc aggaccactt ctgcgtcgg 2040
ccctccggc tggctgttt attgctgata aatctggagc cggtgagcgt gggctcgcg 2100
gtatcattgc agcactgggg ccagatggta agccctccc tctctagtt atctacacga 2160
cggggagtc gcaactatg gatgaacgaa atagacagat cgctgagata ggtgcctcac 2220
tgattaagca ttgtaactg tcagaccaag ttactcata tatacttag attgattaa 2280
aacttcatt ttaattaaa aggatctagg tgaagatcct tttgataat ctcatgacca 2340
aatccctta acgtgagttt tctgtccact gagcgtcaga ccccgtagaa aagatcaaag 2400
gatctctg agatccttt ttctgcgcg taatctgctg cttgcaaca aaaaaaccac 2460
cgctaccagc ggtgtttgt ttccggatc aagagctacc aactctttt ccgaaggtaa 2520
ctggcttcag cagagcgag ataccataa ctgtcctct agttagcgg tagttaggcc 2580
accactcaa gaactctgta gcaccgcta catacctgc tctgctaate ctgttaccag 2640
tggctgctg cagtggcgat aagctgtgct ttaccgggtt ggactcaaga ctagattac 2700
cggataaggc gcagcgtgc ggtgaacgg ggggttcgtg cacacagccc agcttgagc 2760
gaacgacct caccgaactg agatactac agcgtgagct atgagaagc gccacgctc 2820
ccgaaggag aaaggcggac aggtatccgg taagcggcag ggtcggaca ggagagcgca 2880
cgaggagct tccaggggga aacgcctggt atctttatg tctgtcggg ttctgccacc 2940
tctgactga cgtgcattt ttgtgatgct cgtcaggggg gcggagccta tggaaaaacg 3000
ccagcaacgc ggcctttta cggctcctgg ccttttctg gccttttct cactgtttc 3060
ttctgcgtt atccctgat tctgtgata accgtattac cgcctttgag tgagctgata 3120
ccgctgcgg cagccgaacg accgagcgca gcgagtcagt gagcgaggaa gcggaagagc 3180

gcctgatgcg gtaatttctc ctacgcac tggtcg cacaccgc ataaattccg 3240
acaccatcga atggtgcaaa accttcgcg gtaaggatg atagcgcccga gaagagagtc 3300
aattcagggt ggtgaatgtg aaaccagtaa cgttatacga tgcgcagag tatgccggtg 3360
tctttatca gaccgtttcc cgcgtggtga accaggccag ccacgtttct gcgaaaacgc 3420
gggaaaaagt ggaagcgcg atggcgggagc tgaattacat tcccaaccgc gtggcacaac 3480
aactggcggg caaacagtcg ttgctgattg gcgttgccac ctccagtctg gccctgcacg 3540
cgccgtcgca aattgtcgcg gogattaaat ctgcgcccga tcaactgggt gccagcgtgg 3600
tggtgtcgat ggtagaacga agcgcgctcg aagcctgtaa agcgcggtg cacaattctc 3660
tcgcgcaacg cgtcagtggtg ctgacatta actatccgct ggatgaccag gatgccattg 3720
ctgtggaagc tgcctgcaat aatgttcggg cgttattct tgaatctct gaccagacac 3780
ccatcaacag tattatttcc tccatgaag acggtacgcg actggcgctg gagcatctgg 3840
tcgcattggg tcaccagcaa atcgcgctg tagcgggccc attaatgtct gtctcggcgc 3900
gtctgcgtct ggctggctgg cataaatatc tcaactgcaa tcaaatcag ccgatagcgg 3960
aacgggaagg cgactggagt gccatgtccg gtttcaaca aaccatgcaa atgctgaatg 4020
agggcatcgt tccactgcg atgctggttg ccaacgatca gatggcgctg ggcgcaatgc 4080
gcgccattac cgagtccggg ctgcgcgttg gtgcggatat ctcggtagtg ggatacgacg 4140
ataccgaaga cagctcatgt tatatccgcg cgttaaccac catcaaacag gattttcgcc 4200
tgctggggca aaccagcgtg gaccgcttc tgaactctc tcaggggccg gcggtgaagg 4260
gcaatcagct gttcccgcg tcaactgtga aaagaaaaac caccctggcg cccaatcgc 4320
aaaccgctc tccccgcg ttggccgatt cattaatgca gctggcacga caggtttccc 4380
gactggaaag cgggcagtg gcgcaacgca attaatgtga gttagctcac tcattaggca 4440
ccccaggctt tacacttat gcttccgct cgtatgtgt gtggaattgt gagcggataa 4500
caatttaca caggaaacag ctatgacct gattacggat tcaactggcg tcttttaca 4560
acgtcgtgac tgggaaaacc ctggcgctac ccaacttaac cgcttgacg cacatcccc 4620
tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat cgccctccc aacagtgcg 4680
cagcctgaat ggcaaatggc gcttgcctg gtttcggca ccagaagcgg tgccggaaag 4740
ctggctggag tgcgatctc ctgaggccga tactgtcgtc gtcccctcaa actggcagat 4800
gcacggttac gatcgccca tctacacaa cgtaacctat ccattacgg tcaatcgcc 4860
gtttgtccc acggagaatc cgacgggtg ttactcgtc acattaatg ttgatgaaag 4920
ctggtacag gaaggccaga cgcaattat tttgatggc gttggaatt 4969

<210> 32

<211> 11800

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: plasmide
expressing pET32a+

<400> 32

atccggatat agttctctc ttcagcaaaa aaccctcaa gaccgttta gaggcccaa 60
ggggttatgc tagttatgc tcagcggtg cagcagcaa taggcctata tcaaggagga 120
aagtcgtttt ttgggaggt ctgggcaaat ctccggggt cccaatacgc atcaataacg 180
agtcgccacc gtcgtcggt ctacgttcc ttccgggtt tggtagcag cggtatcag 240
tggtggtggt ggtggtgctc gactgcggc gcaagctgt cgacggagct cgaattcgga 300
gagtcgaagg aaagcccga acaatcgtc gcctagatc accaccacca ccaccagag 360
ctcagcccg cgttcgaaca gctgctcga gcttaagcct tccgatatca gccatggcct 420
tgtcgtcgtc gtccgtacc agatctggc tgcctatgt ctggcggtc aatttagcag 480
cagcggttcc ttcatacca aggtatagt cggtagcga acagcagcag cagccatggg 540
tctagaccgc acaggtacac gaccgaagc ttaaatcgtc gtcgcaaaag aaagtatggt 600
gaaccgcgtg gcaccagacc agaagaatga tgatgatgat ggtgcatat gccagaacca 660
gaaccggcca ggttagcgtc gaggaactct tcaactgac ctggcgac cggtgtctg 720
tcttctact actactacta ccacgtatac cgttcttgt ctggcggt ccaatcgag 780
ctccttgaga aagttactg cttagacag tgcaccact ttggtgccc ccacttacc 840
gttttgaac agcagcagag tcgggatacc acggatgcca tatctggcg cagtgcagg 900
gaaatctgc acgtgggtga aaccaacggc ggtgaagtgg caaaaactg tctcgtctc 960
agccctatgg tgctacggg ataaagccgc gtcacggtcc gtttgatc atgttcagt 1020
ttgcaacggc cagttgccc tgatattct cagcgttcc atccagaatc gggcgcatca 1080
tttgcacgg accgaccac caaactagc tacaagtcaa aacgttgcca gtcaaacggg 1140
actataagca tctgctaag taggtcttag ccccgctagt aaaacgtgcc tggcgtggtg 1200
tctgccaga aatcgacgag gatcgcccc tccgcttga gtacatccgt gtcaaaactg 1260

tcgtcagtca ggtgaataat ttatcgctc atatgtacacgggtct ttagctgctc 1320
 ctacgggggc aggcgaact catgtaggca cagttggac agcagtcagt ccacttatta 1380
 aaatagcgag tatacatata ctcttctta aagttaaaca aaattatttc tagaggggaa 1440
 ttgttatccg ctacaaattc ccctatagt agtcgtatta atttcgcggtg atcgagatcg 1500
 gaggaagaat ttcaatttgt ttaataaag atctccctt aacaataggc gagtgtaag 1560
 gggatatcac tcagcataat aaagcgccc tagctctagc atctcgatcc tctacgccg 1620
 acgcatcgtg gccggcatca ccggcgccac aggtgcggtt gctggcgctt atatgccga 1680
 catcaccgat ggggaagatc tagagctagg agatcgggc tgcgtagcac cggccgtagt 1740
 ggccgcggtg tccacgcaa cgaccgcga tatagcggtc gtagtggtta ccccttctag 1800
 gggtcgcga ctctgggctc atgagcgctt gttcggcgt gggtaggtg gcaggccccg 1860
 tggccggggg actgttgggc gccatctct tgcagtcacc cccgagcgtt gaagccccgag 1920
 tactcgcaa caaagccgca ccataccac cgtccggggc accggcccc tgacaaccg 1980
 cggtagagga acgtacgtg attccttgc gcggcggtgc tcaacggcct caacctacta 2040
 ctgggtgctt tctaatgca ggagtcgcat aaggagagc gtcgagatcc cggacacat 2100
 taaggacgc gccgccacg agttgccga gttggatgat gaccgacga aggattacgt 2160
 cctcagcgta ttccctcgc cagctctagg gcctgtgta cgaatggcgc aaaaccttc 2220
 gcggtatggc atgatagcg ccggaagaga gtcaattcag ggtggtgaat gtgaaccag 2280
 taacgtata cgatgtgca gcttaccgc tttggaaag gcgcataccg tactatcgc 2340
 ggcttctc cagtaagtc ccaccacta cactttggtc attgcaatat gctacagct 2400
 gtagtgccg gtgtctcta tcagaccgt tccgcgtgg tgaaccaggc cagccagtt 2460
 tctgcaaaa cgcgggaaaa agtgggaagc gcgatggcg ctcatacgcc cacagagaat 2520
 agtctggcaa agggcgccac acttggtccg gtcggtgcaa agacgcttt gcgcccttt 2580
 tcacctgc cgctaccgc agctgaatta cattccaac cgcgtggcac acaactggc 2640
 gggcaaacag tegtgtgta ttggcgtgc cacctccagt ctggccctgc acgcgccgc 2700
 tgcactaat gtaagggtg gcgcaccgtg ttgtgaccg cccgtttgc agcaacgact 2760
 aaccgcaacg gtggaggtca gaccgggacg tgcggcgag gcaattgtc gcggcgatta 2820
 aatctcgcg cgatcaactg ggtgccagcg tgggtggtc gatggtaga cgaagcgcg 2880
 tcgaagcctg taaagcgcg cgttaacag gcgcgcta ttagagcgc gctagtgc 2940
 ccacggcgc accaccacg ctaccatctt gcttcggcg agcttcggac atttcggcg 3000
 gtgcacaatc ttctcgca acgcgtcagt gggctgatc ttaactatc gctggatgac 3060
 caggatgca ttctgtgga agctgcctgc actaatgtc cactgttag aagagcgct 3120
 tgcgcagta cccgactagt aattgatag cgacctactg gtcctacgt aacgacact 3180
 tcgacggacg tgattacaag cggcgttatt tctgatgc tctgaccga caccatcaa 3240
 cagtattatt ttctccatg aagacgtac gcgactggg gtggagcatc tggcgcatt 3300
 gccgcaataa agaactacg agactgtct gtgggtagt gtcataataa aagagggtac 3360
 ttctgccatg cgctgaccg cactcgtag accagcgtg gggcaccag caatcgcgc 3420
 tgttagcggg cccattaagt tctgtctgg cgcgtctgc tctggctggc tggcataat 3480
 atctactcg caatcaaatt ccagtggtc gtttagcgc acaatcgcc gggtaatca 3540
 agacagagcc gcgcagacg agaccgacc accgtattt tagagtgc gtagtttaa 3600
 cagccgatg cggaacggga agcgactgg agtgccatg cgggtttca acaaccatg 3660
 caaatgctga atgagggcag ctctccact gcgatgctg gtcggctatc gccttgcct 3720
 tccgtgacc tcacgtaca ggccaaaagt tgttggtac gttacgact tactccgta 3780
 gcaagggtga cgctacgacc ttgccaacg tcagatggcg ctggcgcaa tgcgcgcat 3840
 taccgagtc gggctgcgc ttggtcgga catctcgta gtgggatac agataaccg 3900
 aacggttct agtctaccg gaccgcgtt acgcgcgta atggctcagg cccgacgcgc 3960
 aaccacgct gtagaccat caccatagc tgctatggt agacagctca tttatatcc 4020
 cgcgttaac caccatcaa caggatttc gcctgctgg gcaaaccagc gtggaccgt 4080
 tgctgcaact ctctcaggc tctgtcagt acaatatag gcggcaattg gtgtagttt 4140
 gtctaaaaa cgcagaccc cgttggtc cactggcg acgaggtga gagagtcgg 4200
 caggcggtga aggcgaatc gctgtgccc gtctactgg tgaagaaga aaccacctg 4260
 gcgccaata cgcaaccgc ctctccccc gcgttggcg gtcgccact tccgttagt 4320
 cgacaacggg cagagtacc actttctt ttggtgggac cgcgggtat gcgttggcg 4380
 gagagggcg cgcaaccggc attcattaat gcagctggca cgacaggtt ccgactgga 4440
 aagcgggcag tgagcgcaac gcaattaat taagtagct cactcattg gcaccggat 4500
 taagtaatta cgtcaccgt gctgtcaaa gggctgacct ttgcccgtc actcgcgtt 4560
 cgttaattac attcaatcg gtgagtaac cgtggcccta ctgaccgat gcccttgaga 4620
 gcctcaacc cagtcagtc ctccgggtg gcgcggggca tgactatct gcccgactt 4680
 atgactgtct tcttatcat gagctggta cgggaactc cggaagtgg gtcagtcag 4740
 gaagggcacc cgcggccgt actgatagca gcggcgtga tactgacaga agaaatagta 4800
 gcaactcgta ggacaggtg cggcagcgt ctgggtcatt ttcggcagg accgcttcg 4860
 ctggagcgc agatgatgc gcctgtcgt tgcggtatc cgttagcat cctgtccac 4920
 gccgtcgca gaccagtaa aagccgtcc tggcgaaag cactcgcgc tgctactagc 4980
 cggacagca acgccaatg ggaatctgc acgcctcgc tcaagcctc gtcactgtc 5040

ccgccaccaa acgtttcggc gagaagcagg ccgcgc cgcatggcg gccccacggg 5100
 ccttagaacg tgcgggagcg agttcggagc cagtgaccag ggcggtggtt tgcaagccg 5160
 ctcttcgtcc ggtaaatagc gccgtaccgc cggggtgccc tgcgcatgat cgtgtctctg 5220
 tcgttgagga cccggctagg ctggcggggt tgccttactg gttacagaa tgaatcaccg 5280
 atacgcgagc gaacgtgaag acgcgtacta gcacgaggac agcaactcct gggccgatcc 5340
 gaccgcccc aacgaatgac caatcgtctt acttagtggc tatcgctcg cttgcacttc 5400
 cgactgctgc tgcaaacgt ctgcgacctg agcaacaaca tgaatggtct tcggtttccg 5460
 tgtttcgtaa agtctggaaa cgcggaagtc agcgccctgc gctgacgacg acgttttgca 5520
 gacgctggac tcgttgtgt acttaccaga agccaaaggc acaaagcatt tcagaccttt 5580
 gcgccttcag tcgcgggacg accattatgt tccgcatctg catcgagga tgcgtctggc 5640
 taccctgtgg aacacctaca tctgtattaa cgaagcgctg gcattgacct tgaagtattt 5700
 tgtaataca aggcctagac gtacgctctt acgacgaccg atgggacacc ttgtggatgt 5760
 agacataatt gcttcgacg cgttaactggg actactaaa ttctctggtc ccgcccgcac 5820
 cataccgcca gttgtttacc ctcacaacgt tccagtaacc gggcatgttc atcatcagta 5880
 acccgatcgc tgagcatcct aagagaccag ggcggcgtag gtatggcggt caacaaatgg 5940
 gagtgttga aggtcattgg cccgtacaag tagtagtcat tgggcatagc actcgtagga 6000
 ctctcgtttc atcggtatca ttacccccat gaacagaaat cccctttaca cggaggcatc 6060
 agtgacaaa caggaaaaaa ccgcccttaa catggccgcg gagagcaaa tagccatagt 6120
 aatgggggta cttgtcttta gggggaatgt gcctccgtag tcactggtt gtccttttt 6180
 ggcgggaatt gtaccggcg tttatcagaa gccagacatt aacgcttctg gagaactca 6240
 acgagctgga cgcggatgaa caggcagaca tctgtgaatc gcttcacgac cagcgtgatg 6300
 aaatagtctt cggctgttaa ttgcgaagac ctctttgagt tgcctgacct gcgcctactt 6360
 gtccgtctgt agacacttag cgaagtctg gtgcgactac agctttaccg cagctgctc 6420
 gcgcgtttcg gtgatgacg tgaaaacctc tgacacatgc agtccccgga gacggtcaca 6480
 gcttgtctgt aagcggatgc tcgaaatggc gtgcacggag cgcgcaaagc cactactgcc 6540
 acttttgag actgtgtac tcgagggcct ctgccagtgt cgaacagaca ttgcctacg 6600
 cgggagcaga caagcccgc agggcgcgtc agcggtgtt ggcgggtgtc gggcgcgagc 6660
 catgaccag tcacgtagcg atagcggagt gtatactggc gccctcgtct gtcgggcag 6720
 tcccgcgag tcgccacaa ccgccacag ccccgcgctg gtactgggtc agtgcacgc 6780
 tatgcctca catatgacc ttaactatgc ggcatcagag cagattgtac tgagagtga 6840
 ccatatatgc ggtgtgaaat accgcacaga tgcgtaagga gaaaataccg catcaggcgc 6900
 aattgatacg ccgtagtctc gtctaactg actctcagt ggtatatacg ccacacttta 6960
 tggcgtgtct acgcattctt ctttatggc gtatccgcg tcttcgctt cctcgtcac 7020
 tgactcgtc gcctcggtc ttccggtcgc gcgagcggt tcaagcactt caaaggcgg 7080
 aatacggtta tccacagaat agaaggcgaa ggagcgagt actgagcgac gcgagccagc 7140
 aagccgacgc cgctcccat agtcgagtga gttccgcca ttatgccaat aggtgtctta 7200
 caggggataa cgcaggaaag aacatgtgag caaaaggcca gaaaaggcc aggaaccgta 7260
 aaaaggccgc gttgtcggc ttttccata ggctccgcc gtcccctatt gcgtccttc 7320
 ttgtacactc gtttccggt cgtttccgg tcttggcat tttccggc caacgaccgc 7380
 aaaaaggat ccgaggcgg ccctgacgag catcacaaa atcgacgctc aagtcagagg 7440
 tggcgaacc cgacaggact ataaagatac caggcgcttc cccctggaag ctcctcgtg 7500
 gggactgctc gtatgtttt tagctgcgag ttcagtctcc accgctttg gctgtcctga 7560
 tatttctatg gtccgcaaa ggggacctc gagggagcac cgctctcctg ttccgacct 7620
 gccgcttacc ggatactgt ccgctttct ccttcggga agcgtggcgc ttctcatag 7680
 ctcacgtgt aggtatctca gcgagaggac aaggctggga cggcgaatgg cctatggaca 7740
 ggcggaaga gggaagccct tcgaccgcg aaagagtatc gactgcgaca tccatagagt 7800
 gttcgggtga ggtcgttcg tccaagctgg gctgtgtga cgaaccccc gttcagccc 7860
 accgtgcgc cttatccgt aactatcgtc ttgagtcaa caagccacat ccagcaagcg 7920
 aggttcgacc cgacacacgt gcttggggg caagtcgggc tggcgacgcg gaataggcca 7980
 ttgatagcag aactcaggt cccgtaaga cagacttat cgcactgac agcagccact 8040
 gtaacagga ttagcagagc gaggtatga ggcggtgcta cagagtctt gaagtgttg 8100
 gggccattct gtgctgtaa cggtgacgc tcgtcggtga ccattgtct aatcgtctg 8160
 ctccatacat ccgccacgat gtctcaagaa cttcaccacc ctaactacg gctacactag 8220
 aaggacagta ttgttatct gcgtctctg gaagccagt accctcgga aaagagtgg 8280
 tagctctga tccggcaaac ggattgatc cgatgtatc ttctgtcat aaacataga 8340
 cgcgagacga cttcggtcaa tgaagccct ttttcaacc atcgagaact aggccgttg 8400
 aaaccaccgc tggtagcgtt ggtttttt tttgcaagca gcagattacg cgcagaaaa 8460
 aaggatccta agaagatct ttgatcttt ctacggggtc ttgttggcg accatcgcca 8520
 ccaaaaaaac aaacgttct cgtctaatgc gcgtctttt ttctagagt tctttagga 8580
 aactagaaa gatgccccg tgacgctcag tgaacgaaa actcacgta agggatttg 8640
 gtcagagat tatcaaaaag gatcttacc tagatcctt taaataaaa atgaagtgt 8700
 actgcgagtc acctgtctt tgagtgaat tccctaaaac cagtactcta atagtttc 8760
 ctgaagtgg atctaggaaa atttaattt tacttcaaaa aaatcaatc aaagtatata 8820

tgagtaaact tggctgaca gttaccaatg cttaaaggacaccta tctcagcgat 8880
 ctgtctattt cggtcatcca tttagttaga ttcatatat aatcatttga accagactgt 8940
 caatggttac gaattagtc ctcctggat agagtcgcta gacagataaa gcaagtaggt 9000
 tagttgcttg actccccgtc gtgtagataa ctacgatacg ggaggggcta ccatctggcc 9060
 ccagtgtctg aatgataccg cgagaccac gctcaccggc atcaacggac tgaggggcag 9120
 cacatctatt gatgctatgc cctcccgaat ggtagaccgg ggtcacgacg ttactatggc 9180
 gctctgggtg cgagtggcgg tccagattta tcagcaataa accagccagc cggaagggcc 9240
 gagcgagaa gtggtcctgc aactttatcc gcctccatcc agtctattaa ttgtgccc 9300
 aggtctaaat agtctgtatt tggcggctg gcctccccgg ctcgctctt caccaggacg 9360
 ttgaaatagg cggaggtagg tcagataatt aacaacggcc gaagctagag taagtagttc 9420
 gccagttaat agtttgcga acgtgttgc cattgtctga ggcacgtgg tgcacgctc 9480
 gtcgtttgtt atggctcat ctctgatc atcatcaag cggtaatta tcaaacgct 9540
 tgcaacaacg gtaacgacgt ccgtagcacc acagtgcgag cagcaacca taccgaagta 9600
 tcagctccgg ttccaacga tcaaggcgag ttacatgac cccatgttg tgcaaaaaag 9660
 cggtagctc ctctgctct cgatcgttg tcagaagtaa agtcgaggcc aagggttgc 9720
 agttccgctc aatgtactag ggggtacaac acgtttttc gccaatcgag gaagccagga 9780
 ggtagcaac agtcttcat gttggccgca gtgtatcac tcatggtat ggcagcactg 9840
 cataattctc ttactgtcat gccatccgta agatgtttt ctgtactgg tgagtactca 9900
 caaccggcgt cacaatagtg agtaccata ccgtcgtgac gtattaagag aatgacagta 9960
 cggtaggcat ttacgaaaa gacactgacc actcatgagt accaagtc tctgagaata 10020
 gtgtatggcg cgaccgagtt gctcttggcc ggcgtcaata cgggataata ccgcccaca 10080
 tagcagaact taaaagtgc tggttcagta agactctat cacatagcc gctggctcaa 10140
 cgagaacggg ccgagttat gccctattat ggcgcggtg atcgtctga aatttcacg 10200
 tcatcattgg aaaacgtct tcggggcgaa aacttcaag gatctaccg ctgttgagat 10260
 ccagtctgat gtaaccact cgtgcacca actgatctc agtagtaacc ttgtcaaga 10320
 agccccgctt ttgagagtc ctagaatggc gacaactcta ggtcaagcta cattgggtga 10380
 gcacgtgggt tgactagaag agcatcttt actttacca gcgtttctg gtgagcaaaa 10440
 acagggaagg aaaatgccg aaaaaaggga ataaggcgca cagggaatg tgaatactc 10500
 tctgagaaaa tgaagtgtt cgcaagacc cactcgttt tgccttccg tttaacggcg 10560
 tttttccct tttcccgct gtgcctttac aacttatgag atactcttc ttttcaata 10620
 ttattgaagc atttatcagg gttattgtc catgagcgga tacatattg aatgtattta 10680
 gaaaaataaa caaatagggg tatgagaagg aaaaagtat aataactcg taaatagtc 10740
 caataacaga gtactgcct atgtataaac ttacataaat cttttattt gttatcccc 10800
 ttccgcgcac atttccccga aaagtgcac ctgaaattg aaacgttaat atttgttaa 10860
 aattcgcgtt aaattttgt taaatcagct catttttaa aaggcgctg taaaggggt 10920
 ttacaggtg gactttaaca ttgcaatta taaaacaatt taaagcgaa tttaaaaa 10980
 atttagtga gtaaaaaatt ccaataggcc gaaatcgga aaatcccta taatcaaaa 11040
 gaatagacc agatagggt gagtgtgtt ccagtttga acaagagtc actattaaag 11100
 ggttatccg ctttagcct tttagggaat atttagttt ctatctggc tctatccaa 11160
 ctcaacaa ggtcaacct tgtctcagg tgataattc aacgtggact ccaacgtcaa 11220
 agggcgaaaa accgtctatc agggcgatgg ccactacgt gaaccatcac ctaatacaag 11280
 tttttggg tggaggtgcc ttgcacctga ggttcagtt tcccgcttt tggcagatag 11340
 tcccgtacc ggggatgca ctggtagt ggttagttc aaaaaaccc agtccacgg 11400
 gtaaagcact aaatcggaac ctaaaggga gccccgatt tagagcttga cggggaagc 11460
 cggcgaaagt ggcgagaaag gaagggaaga aagcgaaag catttcgtga tttagcctt 11520
 ggatttccct cgggggctaa atctgaact gccccttcg gccgttgca ccgtcttct 11580
 ctcccttct tctgttcc agcgggcgt agggcgctg caagtgtagc ggtcacgctg 11640
 cgcgtaacca ccacaccgc cgcgttaat gcgccgtac agggcgctc ccattcgca 11700
 tcgccgca tcccgcgacc gttacatcg ccagtgcgac gcgcattgt ggtgtggcg 11760
 gcgcgaatta cgcggcgatg tcccgcgag gtaagcgtt 11800

<210> 33

<211> 2504

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: plasmide
expressing pT7-7

<400> 33

aattctcatg ttgacagct tatcatcgat gataagcttg ggctgcaggt cgactctaga 60

ggatccccgg gcgcgaattc tagccatattg tattaattcttaaagtt aaacaaaatt 120
 atttctagag ggaaaccgtt gtggtctccc tatagtgcgt cgtattaatt tcgaagtcta 180
 tcagaagttc gaatcgctgg gcctcgcgcg ttccggtgat gacggtgaaa acctctgaca 240
 catgcagctc ccggagacgg tcacagcttg tctgtaagcg gatgccggga gcagacaagc 300
 ccgtcagggc gcgtcagcgg gtgttgccgg gtgtcggggc gcagccatga cccagtcacg 360
 tagcgatagc ggagtgtata tactggctta actatgcggc atcagagcag attgtactga 420
 gagtgcacca taggaagatc ttccggaaga tcttctatg cgggtgtaaa taccgcacag 480
 atcgtaagg agaaaatacc gcacagggcg ctcttccgct tctcgtca ctgactcgt 540
 gcgctcggtc gttcggctgc ggcgagcgg atcagctcac tcaaaggcgg taatacgggt 600
 atccacagaa tcaggggata acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc 660
 caggaaacctg aaaaaggcgg cgttgctggc gttttccat aggtccgcc cccctgacga 720
 gcacacaaa aatcgacgt caagtcagag gtggcgaaac ccgacaggac tataaagata 780
 ccaggcggtt cccctggaa gtcctcgt gcgtctctt gttccgacc tgcgcttac 840
 cggatacctg tccgctttc tccctcggg aagcgtggcg ctttcaat gtcacgctg 900
 taggtatctc agttcggtgt aggtcgttcg ctccaagctg ggctgtgtgc acgaacccc 960
 cgttcagccc gaccgctgcg cttatccgg taactatcgt ctgagtcca acccggttaag 1020
 acacgactta tcgccactgg cagcagccac tgtaacagg attagcagag cgaggtatgt 1080
 aggcggtgt acagagttct tgaagtgtg gcctaactac ggctaccta gaaggacagt 1140
 atttgatc tcgctctgc tgaagccagt tacctcggg aaaagagttg gtactcttg 1200
 atccggcaaa caaacaccg ctggtagcgg tggttttt gtttcaagc agcagattac 1260
 gcgcagaaaa aaaggatctc aagaagatcc ttgatctt tctacgggt ctgacgtca 1320
 gtggaacgaa aactcacgtt aagggtattt ggtcatgaga ttatcaaaaa ggatcttcac 1380
 ctgatactt ttaattctt aagacgaaag ggcctcgtg tacgcctatt ttatagggt 1440
 aatgtcatg taataatgtt ttcttagac tcaggtggca ctttcgggg aaatgtgcgc 1500
 ggaacccta ttgtttatt ttctaata cattcaata tgtatccgt catgagaca 1560
 taaccctgat aaatgctca ataattga aaaaggaaga gtatgagtat tcaacattc 1620
 cgtgtcggc ttatccctt tttcgggca tttgcctc ctgttttg tcacccagaa 1680
 acgctgtga aagtaaaaga tctgaagat cagttgggtg cagagtggg ttacatcga 1740
 ctggatcga acagcgtaa gatccttgag agtttcgcc ccgaagaacg tttccaatg 1800
 atgagcatt taaagtctt gctatgtgc gcggtattt cccgtgtga gccgggcaa 1860
 gagcaactc gtgcgccat acactattt cagaatgact tgggtgagta ctcaccagtc 1920
 acagaaaagc atcttacga tggcatgaca gtaagagaat tatgcagtgc tgccataacc 1980
 atgagtata acactcggc caactactt ctgacaacga tcggaggacc gaaggagcta 2040
 accgctttt tgcacaacat gggggatcat gtaactcgc ttgatcgtg ggaaccggag 2100
 ctgaatgaag ccatacaaaa cgacgagcgt gacaccacga tgcctgtagc aatggcaaca 2160
 acgttgcga aactattaac tggcgaacta ctactctag ctcccggca acaattaata 2220
 gactggatgg agcgggataa agttgcagga ccactctgc gctcggcct tccggctggc 2280
 tggttattg ctgataaac tggagccgt gagcgtgggt ctcgcggtat cattgcagca 2340
 ctggggccag atggaagcc ctccgtatc gtagttatc acacgacggg gattcaggca 2400
 actatggatg aacgaaatag acagatcgt gagatagggt cctcactgat taagcattg 2460
 taactgtcag accaagtta ctcatatata cttagattg attt 2504

<210> 34

<211> 813

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression system
coding for fusion protein GST-DP-TME1

<400> 34

atgtccccta tactaggta ttggaattt aaggccctg tgcaaccac tcgacttct 60
 ttggaatatt tgaagaaaa atatgaagag catttgatg agcgcgatga aggtgataaa 120
 tggcgaaca aaaagtgtga attgggttg gagttccca atcttctta ttatattgat 180
 ggtgatgta aattaacaca gtctatggc atcatagctt atatagctga caagcacaac 240
 atgttgggtg gttgtccaaa agagcgtgca gagattcaa tgcctgaagg agcggtttg 300
 gatattagat acgggttttc gagaattgca tatagtaaag actttgaaac tctcaaaagt 360
 gattttctta gcaagctacc tgaatgctg aaaatgttcg aagatcgttt atgtcataaa 420
 acatatttaa atggtgatca tgtaacccat cctgacttca tgtgtatga cgctcttgat 480
 gttgttttat acatggacc aatgtcctg gatgcgttcc caaaattagt ttgttttaa 540
 aaacgtattg aagctatccc acaaatgat aagtactga aatccagca gtatatagca 600

tggcctttgc agggctggca agccacgttt ggtgacc accatcctcc aaaatcggat 660
 ctgtctggtg gtgtggtgg tctggtccg cgtggatccg acccgatcgc tgggtctcac 720
 tgggggtgtc tggctggtat cgcttacttc tctatggtg gtaactgggc taaagtctg 780
 gttgttctgc tctgttcgc tgggttgac gct 813

<210> 35

<211> 513

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression system
 coding for fusion protein TrX-DP-TME1

<400> 35

atgagcgata aaattattca cctgactgac gacagttttg acacggatgt actcaaagcg 60
 gacggggcga tctcgtcga tttctggca ggtggtggtg gtccgtgcaa aatgatcgcc 120
 ccgattctgg atgaatcgc tgacgaatat caggcgaac tgaccgttcg aaaactgaac 180
 atcgatcaaa accctggcac tgcgccgaaa tatggcatcc gtggtatccc gactctgtg 240
 ctgttcaaaa acgtggaagt ggcggcaacc aaagtgggtg cactgtctaa aggtcagttg 300
 aaagagtcc tcgacgctaa cctggccggt tctggttctg gatctcaaa atcggtatcg 360
 tctggtggtg gtggtggtct ggttcgcgt ggatccgacc cgtcgtggtg tgcctactgg 420
 ggtgttctgg ctggtatcgc ttacttctct atggttgta actgggctaa agttctggtt 480
 gttctgctgc tgttcgctgg tgttgacgt tag 513

<210> 36

<211> 117

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression system
 coding for fusion protein M-DP-TME1

<400> 36

atggaccga tcgctggtgc tcactggggt gttctggctg gtatcgctta cttctctatg 60
 gttgtaact gggctaaagt tctggttgtt ctgctgctgt tcgctggtgt tgacgct 117

<210> 37

<211> 795

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression system
 coding for fusion protein
 GST-DP-TME2

<400> 37

atgtccccta tactaggtta ttggaaaatt aagggccttg tgcaaccac tcgacttctt 60
 ttggaatc ttgaagaaaa atatgaagag catttgatg agcgcgatga aggtgataaa 120
 tggcgaaaca aaaagtgtga attgggtttg gagtttcca atcttccta ttatattgat 180
 ggtgatgta aattaacaca gtctatggcc atcatacgtt atagctga caagcacaac 240
 atgttgggtg gttgtccaaa agagcgtgca gagattcaa tgctgaagg agcggttttg 300
 gatattgat acggtgttgc gagaattgca tatagtaaag actttgaac tctcaagtt 360
 gattttcta gcaagctacc tgaatgctg aaaatgttcg aagatcgttt atgtcataaa 420
 acatatttaa atggtgatca tgaacccat cctgacttca tgttgatga cgctcttgat 480
 gttgtttat acatggaccc aatgtgcctg gatgcgttcc caaaattagt ttgttttaa 540
 aaacgtattg aagctatccc acaaattgat aagtactga aatccagcaa gtatatagca 600
 tggcctttgc agggctggca agccacgttt ggtggtggcg accatcctcc aaaatcggat 660

ctgtctggtg gtggtggtgg tctggttccg cgtg acccggaata cgtgttctg 720
ctgttctcgc tctggtcga cgctcgtgtt tctcttgc tgtggatgat gctgctgac 780
tctcaggctg aagct 795

<210> 38
<211> 486
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: expression system
coding for fusion protein
TrX-DP-TME2

<400> 38
atgagcgata aaattattca cctgactgac gacagtttg acacggatgt actcaaagcg 60
gacggggcga tctcgtcga tttctgggca gagtgggtgc gtccgtgcaa aatgatcgcc 120
ccgattctgg atgaaatcgc tgacgaatat cagggcaaac tgaccgttcg aaaactgaac 180
atcgatcaaaa accctggcac tgcgccgaaa tatggcatcc gtggtatccc gactctgctg 240
ctgttcaaaa acggtgaagt ggcggcaacc aaagtgggtg cactgtctaa aggtcagttg 300
aaagagttcc tcgacgctaa cctggccggt tctggttctg gatctgatct gtctggtggt 360
gggtggtggtc tggttccgct tggatccgac ccggaatacg ttgttctgct gttcctgctg 420
ctggctgacg ctctgttttg ctcttgcctg tggatgatgc tctgatctc tcaggctgaa 480
gcttag 486

<210> 39
<211> 99
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: expression system
coding for fusion protein M-DP-TME2

<400> 39
atggaccgg aatacgtgt tctgctgttc ctgctgctgg ctgacgctg tgttctct 60
tgcctgtgga tgatgtctg gatctctcag gctgaagct 99

<210> 40
<211> 5082
<212> DNA
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: expression vector
pGEXKT-dp-Pt(TME1)

<400> 40
acgttatcga ctgcacggtg caccaatgct tctggcgtca ggcagccatc ggaagctgtg 60
gtatggctgt gcaggctgta aatcactgca taattcgtgt cgctcaaggc gactcccgt 120
tctggataat gtttttgcg ccgacatcat aacggttctg gcaaatattc tgaaatgagc 180
tgttgacaat taatcatcgg ctctgataat gtgtggaatt gtgagcggat aacaattca 240
cacaggaaac agtattcatg tcccctatac taggttattg gaaaattaag ggccttgtgc 300
aaccactcgc acttcttttg gaatatcttg aagaaaaata tgaagagcat ttgtatgagc 360
gcgatgaagg tgataaatgg cgaaacaaaa agtttgaatt gggtttggag ttcccaatc 420
ttccttatta tattgatgt gatgttaaat taacacagtc tatggccatc atacgttata 480
tagctgacaa gcacaacatg ttgggtggtt gtccaaaaga gcgtgcagag atttcaatgc 540
tgaaggagc ggttttggat attagatacg gtgttcgag aattgcatat agtaaagact 600
tgaactct caaagttgat ttcttagca agctacctga aatgctgaaa atgttcaag 660
atcgtttatg tcataaaaca tatttaaatg gtgatcatgt aaccatcct gacttcatgt 720

tgtatgacgc tcttgatgtt gttttatata tggaccgcttgat gcgttcccaa 780
 aattagtttg ttttaaaaaa cgtattgaag ctatcccaaa aattgataag tacttgaat 840
 ccagcaagta tatagcatgg cctttgcagg gctggcaagc cacgtttggt ggtggcgacc 900
 atctccaaa atcggatctg tctggtggtg gtggtggtct ggtccgcgt ggatccgacc 960
 cgatcgctgg tgcctactgg ggtgttctgg ctggtatcgc ttacttctct atggttggtta 1020
 actgggctaa agttctggtt gttctgctgc tttcgctgg tgtgacgct taggaattca 1080
 tctgactga ctgacatct gcctcgcgcg ttccggtgat gacggtgaaa acctctgaca 1140
 catgcagctc ccggagacgg tcacagcttg tctgtaagcg gatgccggga gcagacaagc 1200
 ccgtcagggc gcgtcagcgg gtgttgccgg gtgtcggggc gcagccatga ccagtcacg 1260
 tagcgatagc ggagtgatata attctgaag acgaaaggcg ctcgtgatac gcctattttt 1320
 ataggtaat gtcataataa taatggttc ttagacgtca ggtggcactt ttcggggaaa 1380
 tgtggcgga accctattt gttttttt ctaaatacat tcaaatatgt atccgctcat 1440
 gagacaataa cctgataaa tgcctcaata atattgaaa aggaagagta tgagtattca 1500
 acatttccgt gtcgccctta ttccctttt tgcggcattt tgccttctg ttttgcctca 1560
 cccagaaacg ctggtgaaag taaagatgc tgaagatcag ttgggtgcac gagtgggta 1620
 catcgaactg gatcicaaca gcggtgaagat ccttgagagt ttccgcccgc aagaacgtt 1680
 tccaatgatg agcactttta aagttctgct atgtggcgcg gtattatccc gtgtgacgc 1740
 cgggcaagag caactcgctc gccgcataca ctattctcag aatgacttgg ttgagtactc 1800
 accagtcaca gaaaagcctc ttacggatgg catgacagta agagaattat gcagtctgc 1860
 cataacctag atgataaca ctgcggccaa ctactctg acaacgatcg gaggaccgaa 1920
 ggagctaacg gcttttttc acaacatggg ggatcatgta actcgcttg atcgttgga 1980
 accggagctg aatgaagcca taccaacga cgagcgtgac accacgatgc ctgcagcaat 2040
 ggcaacaacg ttgcgcaaac tattaactgg cgaactact actctagctt cccggcaaca 2100
 attaatagac tggatggagg cggataaagt tgcaggacca ctctgcgct cggccctcc 2160
 ggctggctgg ttattctgct ataatctgg agccggtgag cgtgggtctc gcggtatcat 2220
 tgcagcactg gggccagatg gtaagccctc ccgtatcgt gttatctaca cgacggggag 2280
 tcaggcaact atggatgaac gaaatagaca gatcgtgag atagggtcct cactgattaa 2340
 gcattgtaa ctgtcagacc aagtttactc atataactt tagattgatt taaaactca 2400
 ttttaattt aaaagatct agtgaaagat ctttttgat aatctcatga ccaaactccc 2460
 ttaacgtgag ttttcgtcc actgagcgtc agaccctga gaaaagatca aagatcttc 2520
 ttgagatcct tttttctgc gcgtaatctg ctgcttgcaa acaaaaaaac caccgtacc 2580
 agcgtggtt tgtttccgg atcaagagct accaactctt ttccgaagg taactggctt 2640
 cagcagagcg cagataccaa atactgtcct tctagttag ccgtagttag gccaccact 2700
 caagaactct gtagcaccgc ctacatacct cgctctgcta atcctgttac cagtggctgc 2760
 tgccagtggc gataagctgt gtcttaccgg gttgactca agacgatagt taccggataa 2820
 ggccgagcgg tggggctgaa cgggggggtc gtgcacacag ccagcttgg agcgaacgac 2880
 ctacaccgaa ctgagatacc tacagcgtga gctatgagaa agcgccacgc ttccgaagg 2940
 gagaaaggcg gacaggtatc cggtaaaggc cagggtcgga acaggagagc gcacgaggga 3000
 gcttcagggg ggaacgcct ggtatcttta tagtctgtc ggtttcgc acctctgact 3060
 tgagcgtcga tttttgtg gctcgtcagg ggggcggagc ctatggaaaa acgccagcaa 3120
 cgcgccctt ttacggttc tggcctttg ctggccttt gctcacatgt tcttctgc 3180
 gttatccctt gattctgg ataaccgtat taccgcctt gagttagctg ataccgtcg 3240
 ccgagccga acgaccgagc gcagcgagc agtgagcgag gaagcggaag agcgctgat 3300
 gcggtattt ctcttaccg atctgtcgg tatttcacac cgcataaatt ccgacaccat 3360
 cgaatggtgc aaaaccttc gcggtatggc atgatagcgc ccggaagaga gtcaattcag 3420
 ggtgtgtaat gtgaaccag taacgttata cgatgtcgca gagtatgccg gtgtctctta 3480
 tcagaccgtt tccgcgtgg tgaaccaggc cagccacgtt tctgcgaaaa cgcgggaaa 3540
 agtggaaagc gcgatggcg agctgaatta cattccaac cgcgtggcac aacaactggc 3600
 gggcaaacag tctgtctga ttggcgttc cactccagt ctggccctgc acgcgccgtc 3660
 gcaaattgtc gcggcgatta aatctcgcgc cgatcaactg ggtgccagcg tgggtgtgc 3720
 gatgtagaa cgaagcggcg tcgaagcctg taaagcggcg gtgcacaatc ttctgcgca 3780
 acgctcagt gggctgatca ttaactatcc gctggatgac caggatgcca ttgtgtgga 3840
 agctgcctgc actaatgttc cggcgttatt tcttgatgc tctgaccaga caccatcaa 3900
 cagtattatt ttctccatg aagacggtac gcgactgggc gtggagcctc tggctgcatt 3960
 gggtcaccag caaatcgcgc ttttagcggg ccattaaat tctgtctcg cgcgtctgcg 4020
 tctggttggc tggcataaat atctcactc caatcaaatt cagccgatag cggacggga 4080
 aggcgactgg agtgccatgt ccggtttca acaaacatg caaatgtga atgaggcat 4140
 cgttccact gcgatgtgg ttccaacga tcagatggcg ctggcgcaa tgcgcgcat 4200
 taccgagtc gggctgcgc ttggtcgga tatctcgta gtgggatac acgatacca 4260
 agacagctca tttatatcc gcgcgttaac caccatcaa caggatttc gcctgctggg 4320
 gcaaaccagc gtggaccgt tctgcaact ctctagggc caggcggtga agggcaatca 4380
 gctgtgccc gtctactg tgaaaaaaa aaccacctg gcgccaata cgaaaccgc 4440
 ctctccccgc cgttggcg attcaatat gcagctggca cgacaggtt cccgactgga 4500

aagcgggcag tgagcgcaac gcaattaatg tgcctcactcattag gcaccccagg 4560
ctttacactt tatgcttccg gctcgtatgt tgtgtggaattgtgagcggga taacaatttc 4620
acacagggaaa cagctatgac catgattacg gattcactgg ccgtcgtttt acaacgtcgt 4680
gactgggaaa accctggcgt tacccaactt aatcgccctg cagcacatcc ccctttcgcc 4740
agctggcgta atagcggaaga ggcccgcacc gatcgccctt cccaacagtt gcgcagcctg 4800
aatggcgaaat ggcgctttgc ctggtttccg gcaccagaag cgggtgccgga aagctggctg 4860
gagtgcgata ttctgagggc cgatactgtc gtcgtccctt caaactggca gatgcacggt 4920
tacgatgcgc ccattacac caacgtaacc tatccatta cgtcaatcc gccgtttgtt 4980
cccacggaga atccgacggg ttgtactcg ctcacattta atgttgatga aagctggcta 5040
caggaaaggcc agacgcgaat tatttttgat ggcgttgga tt 5082

<210> 41

<211> 5064

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression vector
pGEXKT-dp-Pt(TME2)

<400> 41

acgttatcga ctgcacgggtg caccaatgct tctggcgta ggcagccatc ggaagctgtg 60
gtatggctgt gcaggctgta aatcactgca taattcgtgt cgtcaaggc gcactcccgt 120
tctggataat gtttttgcg ccgacatcat aacggttctg gcaaatattc tgaatgagc 180
tgttgacaat taatcatcgg ctctgataat gtgtggaatt gtgagcggat aacaatttca 240
cacaggaaac agtattcatg tcccctatac taggtattg gaaaattaag ggccttgtgc 300
aaccactcgc acttctttt gaatatctt aaaaaaata tgaagagcat ttgtatgagc 360
gcgatgaagg tgataaatg cgaacaaaa agtttgaatt gggtttgag ttcccaatc 420
ttccttatta tattgatggt gatgttaaat taacacagtc tatggccatc atacgttata 480
tagctgacaa gcacaacatg ttgggtggtt gtccaaaaga gcgtgcagag atttcaatgc 540
ttgaaggagc gggtttggt attagatacg gtgttcgag aattgcatat agtaaagact 600
ttgaaactct caaagtgtat ttcttagca agctacctga aatgtgaaa atgttcgaag 660
atcgtttatg tcataaaaca tatttaaatg gtgatcatgt aaccatcct gacttcatgt 720
tgtatgacgc tcttgatgtt gttttataca tggacccaat gtgcctggat gcgttccaa 780
aattagttg ttttaaaaaa cgtattgaag ctatcccaca aattgataag tacttgaaat 840
ccagcaagta tatagcatgg ctttgcagg gctggcaagc cacgtttggt ggtggcgacc 900
atcctccaaa atcggatctg tctggtggtg gtggtggtct ggttccgctt ggtacggacc 960
cggataactg ttttctgctg ttctgctgc tggctgacgc tctgtttgc tcttgcctgt 1020
ggaatgctct gctgatctct caggctgaag cttaggaatt catcgtgact gactgacgat 1080
ctgcctcgcg cgtttcgggt atgacgggtg aaacctctga cacatgcagc tcccggagac 1140
ggtcacagct tgtctgaag cggatgccgg gagcagacaa gcccgtcagg gcgcgtcagc 1200
gggtgttggc gggtgtcggg gcgcagccat gaccagtcga cgtagcgata gcggagtgtg 1260
taattctga agacgaaagg gcctcgtgat acgcctattt ttataggta atgtcatgat 1320
aataatggtt tcttagacgt caggtggcac ttctgggga aatgtgcgcg gaaccctat 1380
ttgtttatt tttaaatat attcaatat gtatccgctc atgagacaat aacctgata 1440
aatgttcaa taatattgaa aaaggaagag tatgagtatt caacatttcc gtgtcgcctt 1500
tattcccttt ttgcggcat ttgccttcc tgttttgc caccagaaa cgctggtgaa 1560
agtaaaagat gctgaagatc agttgggtgc acgagtgggt tacatcgaa tgatctcaa 1620
cagcggtaag atccttgaga gtttcgccc cgaagaacgt ttccaatga tgagcattt 1680
taaagtctg ctatgtggcg cggtattatc ccgtgtgac gccgggcaag agcaactcgg 1740
tcgccgata cactatttct agaatgactt ggttgagtac tcaccagtca cagaaaagca 1800
tcttacggat ggcatacag taagagaatt atgcagtgt gccataacca tgagtataa 1860
cactgcggcc aacttactt tgacaacgat cggaggaccg aaggagctaa ccgtttttt 1920
gcacaacatg ggggatcatg taactgcct tgatcgttg gaaccggagc tgaatgaagc 1980
catacaaac gacgagcgtg acaccacgat gcctgcagca atggcaaaa cggtgcgcaa 2040
actattaact ggcgaactac ttacttagc ttccggcaa caattaatag actggatgga 2100
ggcgataaaa gttgcaggac cacttctgcg ctggccctt ccgctggtt ggtttattgc 2160
tgataaatct ggagccgtg agcgtgggtc tcgcggtatc attgcagcac tggggccaga 2220
tggttaagccc tcccgtatcg tagttatcta cagcagggg agtcaggcaa ctatggatga 2280
acgaaataga cagatcgctg agatagggtc ctactgatt aagcattggt aactgtcaga 2340
ccaagttaac tcatatatac tttagattga ttaaaaact catttttaatt taaaaggat 2400
ctaggtgaag atcctttttg ataattcat gacaaaaatc ccttaacgtg agttttcgtt 2460

ccactgagcg tcagaccccg tagaaaagat caa...ct tcttgagatc cttttttct 2520
 gcgcgtaatc tgcgtctgc aaacaaaaa accaccgta ccagcggtagg ttgtttgcc 2580
 ggatcaagag ctaccaactc ttttccgaa ggtaactggc ttcagcagag cgcagatacc 2640
 aaatactgtc ctctagtgt agccgtagtt aggccaccac tcaagaact ctgtagcacc 2700
 gcctacatac ctgcctctgc taatcctgtt accagtggct gctgccagtg gcgataagtc 2760
 gtgtcttacc gggttgact caagacgata gttaccggat aaggcgcagc ggtcgggctg 2820
 aacgggggggt tctgacac agcccagctt ggagcgaacg acctacaccg aactgagata 2880
 cctacagcgt gagctatgag aaagcggcac gcttccgaa gggagaaagg cggacaggta 2940
 tccggtaaagc ggcagggtcg gaacaggaga gcgcacgagg gagcttcag ggggaaacgc 3000
 ctggatatctt tatagtctcg tcgggttctg ccacctctga cttgagcgtc gattttgtg 3060
 atgctcgtca ggggggcgga gcctatggaa aaacgccagc aacgcggcct tttacggtt 3120
 cctggccttt tctggcctt ttgtcacat gtttttctt gcgttatccc ctgattctgt 3180
 ggataaccgt attaccgctt ttgagtgcg tgataccgt cgcgcagcc gaacgaccga 3240
 gcgcagcgag tcagtgcg aggaagcga agagcgcctg atgcggtatt ttctcttac 3300
 gcattctgtc ggtatttcac accgcataa ttcgacacc atcgaatggt gcaaacctt 3360
 tcgcggtatg gcatgatagc gcccggaaga gagtaattc aggggtgtga atgtgaaacc 3420
 agtaacgta tacgatgctg cagagtatgc cgggtgtct tatcagaccg ttcccgcgt 3480
 ggtgaaccag gccagccacg ttctgcgaa aacgcgggaa aaagtgaag cggcgatggc 3540
 ggagctgaat tacattccca accgcgtggc acaacaactg gcgggcaaac agtcgttct 3600
 gattggcgtt gccacctcca gtctggccct gcacgcgcg tcgcaaatg tcgcgcgat 3660
 taatctcgc gccgatcaac tgggtgccag cgtgtgtgtg tcgatgtag aacgaagcgg 3720
 cgtcgaagcc tgtaaagcgg cgtgacaaa tcttctcgc caacgcgtca gtgggctgat 3780
 cattaactat ccgtggatg accaggatgc cattgctgtg gaagctgcct gcactaatgt 3840
 tccggcgta tttctgatg tctctgacca gacaccatc aacagtatta tttctccca 3900
 tgaagacggt acgcgactgg gcgtggagca tctgtgcga ttgggtcacc agcaaatcgc 3960
 gctgttagcg ggcccattaa gttctgtctt ggcgcgtctg cgtctggctg gctggcataa 4020
 atatctcact cgcaatacaa ttcagccgat agcgggaacgg gaaggcgaact ggagtgcct 4080
 gtccggttt caacaaacca tgcaaatgct gaatgagggc atcgttccca ctgcgatgct 4140
 ggttgccaac gatcagatgg cgtggggcgc aatgcgcgcc attaccgagt ccgggctgcg 4200
 cgttggtgcg gatatctcgg tagtgggata cgacgatacc gaagacagct catgttatat 4260
 cccggcgta accaccatca aacaggattt tcgctgctg gggcaacca gcgtggaccg 4320
 cttgctgcaa ctctctcagg gccaggcgtt gaagggcaat cagctgttgc ccgtctact 4380
 ggtgaaaaga aaaaccacc tggcgccaa tacgcaaacc gcctctccc gcgcgttggc 4440
 cgattcatta atgcagctgg cagcagaggt ttcccactg gaaagcgggc agtgagcgca 4500
 acgcaattaa tgtagttag ctactcatt aggcaccca ggcttacac ttatgcttc 4560
 cggctcgtat gttgtgtgga attgtgagcg gataacaatt tcacacagga aacagctatg 4620
 accatgatta cggattcact ggccgtcgtt ttacaacgtc gtgactggga aaacctggc 4680
 gttaccaac ttaatcgctt tgcagcatc ccccttctg ccagctggcg taatagcgaa 4740
 gagggccgca ccgatcgcc ttcccaacag ttgcgcagcc tgaatggcga atggcgctt 4800
 gcctggttc cggcaccaga agcgggtccg gaaagctggc tggagtgcga tcttctgag 4860
 gccgatactg tctcgtccc ctcaactgg cagatgcacg gttacgatgc gccatctac 4920
 accaactgaa cctatccat tacggtcaat ccgccgttg tcccacgga gaatccgacg 4980
 ggtgttact cgctcacatt taatgttgat gaaagctggc tacaggaagg ccagacgca 5040
 attattttg atggcgttgg aatt 5064

<210> 42

<211> 5918

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression vector
pET32a-dp-Pt(TME1)

<400> 42

atccggatat agttctctct ttcagcaaaa aacctctcaa gacctgtta gagggcccaa 60
 ggggttatgc tagttattgc tcagcggtag cagcagccaa ctacgttcc tticgggctt 120
 tgttagcagc cggatctcag tgggtgtgtt ggtgtgtctc gattgcggcc gcaagcttgt 180
 cgacggagct cgaattccta agcgtcaaca ccagcgaaca gcagcagaac aaccagaact 240
 ttgcccaggt taccaacct agagaagtaa gcgataccag ccagaacacc ccagtgcga 300
 ccagcgatcg ggtcggatcc acgcgggaac agaccaccac caccaccaga cagatccgat 360
 ttggagatc cagaaccaga accggccagg ttacgctga ggaactctt caactgacct 420

ttagacagt caccacttt ggttgccgc acttatttgaacag cagcagagtc 480
 gggataccac gtagccata ttccggcga gtgcagggt ttgatcgat gttcagttt 540
 gcaacggta gtttccctg atattctga gcatctcat ccagaatcgg ggcgatcatt 600
 ttgcacggac cgcaccactc tgcacagaaa tcgacgagga tcgccccgc cgtttgagt 660
 acatccgtgt caaaactgtc gtcagtcagg tgaataatt tatcgctcat atgtatatct 720
 ccttctaaa gttaaacaaa attatttcta gaggggaatt gttatccgct cacaattccc 780
 ctatagttag tcgtattaat ttccggggat cgagatcgat ctgatcctc tacgccggac 840
 gcatcgtggc cggcatcacc ggcgccacag gtgcgggttc tgggcctat atcgccgaca 900
 tcaccgatgg ggaagatcgg gctcggcact tcgggctcat gagcgctgt ttggcggtgg 960
 gtatgggtggc agggcccggt gccgggggac tgttggcgcg catctcctg catgcacat 1020
 tccttgcggc ggcggtgctc aacggcctca acctactact gggctgctc taatgcagg 1080
 agtcgcataa gggagagcgt cgagatcccc gacaccatcg aatggcgcaa aacctttgc 1140
 ggtatggcat gatagcgccc ggaagagagt caattcaggg tggatgaatg gaaaccagta 1200
 acgttatagc atgtcgaga gtagccggt gtctctatc agaccgttc ccgctggtg 1260
 aaccaggcca gccacgttc tgcgaaacg cgggaaaaag tggagcggc gatggcgagg 1320
 ctgaattaca ttcccaaccg cgtggcaca caactggcgg gcaaacagtc gttgctgatt 1380
 ggcgttgcca cctccagtct ggcctgcac ggcgcgtcg aaattgtcg ggcgattaaa 1440
 tctgcgccc atcaactggg tgccagcgtg gtggtgctga tggtagaac aagcgcgctc 1500
 gaagcctgta aagcgcggt gcaaatctt ctgcgcaac gcgtcagtg gctgatcatt 1560
 aatatccgc tggatgacca gtagccatt gctgtggaag ctgcctgcac taatgtccg 1620
 gcgtatttc ttagtctc tgaccagaca ccatcaaca gtattattt ctccatgaa 1680
 gacgtacgc gactggcgt ggagcatctg gtcgattgg gtcaccagca aatcgcgctg 1740
 ttagggggc cattaagtc tctcggcg cgtctgcgc tggctgctg gcataaat 1800
 ctactcgca atcaaatca gccgatagc gaacgggaag gcgactggg tgccatgtcc 1860
 ggtttcaac aaaccatga aatgctgaat gagggcatc tccactgc gatgctggt 1920
 gccaacgatc agatggcgt gggcgcaatg cgcgccatta ccgagtcgg gctgcgctt 1980
 ggtgcggaca tctcgtagt gggatacgac gataccgaag acagctcatg ttatatccc 2040
 ccgttaacca ccatcaaca gattttgc ctgctgggc aaaccagct ggaccgttg 2100
 ctgcaactc ctacgggcca ggcggtgaag ggcaatcagc tttgcccgt ctactggtg 2160
 aaaagaaaa ccacctggc gcccaatag caaacgcct ctcccgcgc gttggccgat 2220
 tcattaatgc agctggcac acaggttcc cgactggaaa gcgggcagtg agcgcaacgc 2280
 aattaatga agttagctca ctattaggc accgggatct cgaccgatc cctgagagc 2340
 cttcaaccca gtcagctct tccggtggc gcggggcatg actatcgct ccgcactat 2400
 gactgtctt ttatcatg aactcgtagg acaggtgccg gcagcgctt ggtcatttt 2460
 cggcgaggac cgtttcgt ggagcgcac gatgatcggc ctgtcgctg cggattcgg 2520
 aatctgcac gcctcgtc aagcctcgt cactggtccc gccacaaac gttcggcga 2580
 gaagcaggcc attatcgcc gcatggcggc ccacgggtg ccatgatcg tctcctgtc 2640
 gttgaggacc cggtaggct ggcgggggtg cttactggt tagcagaatg aatcaccgat 2700
 acgagagca agtgagcgc actgctgtg caaacgtct gcgacctgag caacaatg 2760
 aatgtcttc gttttcgtg ttctgtaaag tctgaaacg cggagtcag cgccctgcac 2820
 cattatgtc cgatctga tcgagcatg ctgctggta cctgtgga cactacatc 2880
 tgtattaacg aagcgtgca attgacctg agtgatttt ctctggtccc gccgatcca 2940
 taccgccagt tgtttacct cacaacgtc cagtaaccg gcatgtcat catcagtaac 3000
 cgtatcgtg agcatcctc ctggttcat cgtatcatt accccatga acagaaatc 3060
 cccttacagc gaggcacag tgaccaaca gaaaaaac gcccttaac tggcccgtt 3120
 tatcagaagc cagacattaa cgtcttgga gaaactaac gagctggacg cggatgaac 3180
 ggacacatc tgtaatcgc ttcacgacca cgtgatgag cttaccgca gctgcctgc 3240
 gcgtttcgt gatgacggtg aaacctctg acacatgac ctcccggaga cggtcacagc 3300
 ttgtctgaa gcgcatgccg ggagcagaca agcccgtcag ggcgcgtcag cgggtgttg 3360
 cgggtgtcgg ggcgcagcca tgaccagtc acgtagcag agcgagtg atactggct 3420
 aactatcgg catcagagca gattgtact agagtgcac atatatcgg tgtgaaatc 3480
 cgacagatg cgttaaggaga aaataccgca tcaggcgtc ttcggttcc tgcctactg 3540
 actcgtcgc ctggtcgtt cggctcggc gagcggatc agtctacta aaggcggtaa 3600
 tacggttat cacagaatca ggggataac caggaaaga catgtgagca aaaggccagc 3660
 aaaaggccag gaaccgtaaa aaggccgctg tctggcgtt ttccatagg ctccgcccc 3720
 ctgacgagca tcacaaaaat cgacgtcaa gtcagagggt gcgaaccgg acaggactat 3780
 aaagatacca ggcgtttccc cctggaagct cctcgtgcg ctctcgtt cggacctgc 3840
 cgcttaccg atacctgct gcccttctc cttcggaag cgtggcgctt tctatagct 3900
 cacgctgtag gtatctcagt tcggttagg tcttcgctc caagctggc tgtgtgacg 3960
 aacccccgt tcagccgac cgtcgcct tatccgtaa ctatctctt gattccaacc 4020
 ggtaagaca cgactatcg cactggcag cagccactgg taacaggat agcagagcga 4080
 ggtatgtagg cgtgtctaca gatttctga agtggtgcc taactaggc tacactagaa 4140
 ggacagtatt tggatctgc gctctgta agccagttac cttcgaaaa agagtggta 4200

gctcttgatc cggcaaacaa accaccgctg gtaaggg ttttttgg ttgcaagcagc 4260
 agattacgcg cagaaaaaaa ggaatcgaag aagatcttt gatcttttct acggggtctg 4320
 acgctcagtg gaacgaaaac tcacgttaag ggattttgt catgagatta tcaaaaagga 4380
 tcttcacctg gatcctttta aattaaaaat gaagtttaa atcaatctaa agtatatatg 4440
 agtaaaactg gtctgacagt taccaatgct taatcagtga ggcacatc tcacgcatct 4500
 gtcatttcg ttcaccata gtgcctgac tccccgctg ttagataact acgatacggg 4560
 agggcttacc atctggcccc agtgctgcaa tgataccgcg agacccacgc tcaccggctc 4620
 cagatttatc agcaataaac cagccagccg gaaggggccga gcgcagaagt ggtcctgcaa 4680
 ctttatccgc ctccatccag tctattaatt gtgcccggga agctagagta agtagttcgc 4740
 cagttaatag ttgcgcaac ttgttgcca ttgctgcagg catcgtggtg tcacgctcgt 4800
 cgtttggat ggcttcttc agtccgggtt cccaacgac aagcgaggt acatgatccc 4860
 ccatgttggt caaaaaagcg gtagctcct tcggtcctcc gatcgtgtc agaagtaagt 4920
 tggccgcagt gttatcactc atggttatgg cagcactgca taattctct actgtcatgc 4980
 catccgtaag atgctttct gtgactggg agtactcaac caagtcattc tgagaatagt 5040
 gtatgcggcg accgagttgc tctgcccgg cgtaataac ggataatacc gcgccacata 5100
 gcagaactt aaaaagtgtc atcatggaa aacgttctc gggcgcaaaa ctctcaagga 5160
 tcttaccgct gttgagatcc agttcgatgt aaccactcg tgcaccaac tgatcttcag 5220
 catctttac ttaccacgc gtttctggg gagcaaaaac aggaaggcaa aatgccgcaa 5280
 aaaagggaat aaggcgaca cggaaatgt gaatactcat actcttctt ttcaatatt 5340
 attgaagcat ttatcagggt tattgtctca tgagcggata catatttgaa tgtattaga 5400
 aaataaaca aatagggggt ccgcgacat tccccgaaa agtgccacct gaaattgaa 5460
 acgttaatat ttgttaaaa ttcgcgttaa attttgta aatcagctca tttttaacc 5520
 aataggccga aatcgcaaaa atccctata aatcaaaaga atagaccgag atagggtga 5580
 gtgtgttcc agtttgaac aagagtcac tattaagaa cgtggactcc aacgtcaaag 5640
 ggcaaaaaac cgtctatcag ggcgatggc cactacgtga accatcacc taatcaagt 5700
 tttggggtc gagtgccgt aaagcactaa atcggaacc taaaggagc ccccgattta 5760
 gagcttgacg gggaaagccg gcgaacgtg cgagaaagga agggaagaaa gcgaaaggag 5820
 cggcgctag ggcgctggca agttagcgg tcacgctcg cgtaaccacc acaccgccg 5880
 cgctaatgc gccgtacag ggcgctccc attcgcca 5918

<210> 43

<211> 5891

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression vector
pET32a-dp-Pt(TME2)

<400> 43

atccggatat agttctctc ttacgcaaaa aaccctcaa gaccggtta gagggcccaa 60
 ggggttatgc tagttatgc tcacgggtgg cagcagcaa ctacgttcc ttccgggtt 120
 tgtagcagc cggatctcag ttgtgggtgt ggtgggtgct gactgcccgc gcaagctgt 180
 cgacggagct cgaattccta agcttcagcc tgagagatca gcagcatcat ccacaggcaa 240
 gagcaaacac gagcgtcagc cagcagcagg aacagcagaa caacgtattc cgggtcggat 300
 ccacgcggaa ccagaccacc accaccacca gacagatcag atccagaacc agaaccggcc 360
 aggttagcgt cgaggaaact ttcaactga ctttagaca gtgcacccac ttggttgcc 420
 gccacttca cgttttgaa cagcagcaga gtcgggatac caggatgcc atattcggc 480
 gcagtccag ggtttgatc gatgtcagt ttgcaacgg tcagtttgcc ctgatattc 540
 tcagcgattt catccagaat cggggcgatc atttgcacg gaccgcacca ctctgccag 600
 aaatgcacga ggaatcccc gtccgctttg agtacatccg tgcataaact gtcgtcagtc 660
 aggtgaataa tttatcgtc catatgtata tctcttctt aaagttaaac aaaattatt 720
 ctaggggga attgtatcc gtcacaatt cccctatagt gactgtatt aatttcggg 780
 gatcgagatc gatctgatc ctctacgcc gacgcatcgt ggccggcatc accggcgcca 840
 caggtgcggt tgctggcgcc tatatcccg acatcaccga tggggaagat cgggtcggc 900
 actcgggct catgagcgt ttttcggcg tgggtatgt ggcaggcccc gtggccggg 960
 gactgttggg cgcatctcc ttcatgcac cattccttc ggcggcggtg ctcaacggc 1020
 tcaacctact actgggctgc ttctaatagc aggagtcgca taaggagag cgtcgagatc 1080
 ccggacacca tgaatggcg caaaacctt cgcggtatg catgatagc cccggaagag 1140
 agtcaattca ggggtgtgaa tgtgaacca gtaacgttat acgatgtcg agagtatcc 1200
 ggtgtctctt atcacccgt tccccggtg gtgaaccagg ccagccactt ttctcgaaa 1260
 acgcgggaaa aagtgaagc ggcgatggcg gagctgaatt acattccaa ccgctggca 1320

caacaactgg cgggcaaaaca gtcgtgtgctg attggtg ccacctccag tctggccctg 1380
 cacgcgccgt cgcaaatgt cgcggcgatt aaatcggcg ccgatcaact ggggtccagc 1440
 gtgggtgtgt cgtaggtaga acgaagcggc gtcgaagcct gtaaagcggc ggtgcacaat 1500
 ctctcgcgc aacgcgtcag tgggctgacg attactatc cgttgatga ccaggatgcc 1560
 attgctgtgg aagctgcctg cactaatgtt ccggcggtat ttctgatgt ctctgaccag 1620
 acacccatca acagtattt ttctcccat gaagacggta gcgactggg cgtggagcat 1680
 ctggtcgcgt tgggtcacca gcaaatcgcg ctgttagcgg gccattaag ttctgtctcg 1740
 gcgcgtctgc gctgtgctgg ctggcataaa tatctcactc gcaatcaaat tcagccgata 1800
 gcggaacggg aaggcgactg gagtgccatg tccggtttc acaaacat gcaaatgctg 1860
 aatgagggca tegtccac tgcgatgctg gttgccaacg atcagatggc gctgggcgca 1920
 atgcgcgcca ttaccgagtc cgggctgcgc gttggtgcgg acatctcgtt agtgggatac 1980
 gacgataccg aagacagctc atgttatatc ccgccgttaa ccaccatcaa acaggattt 2040
 cgctgtctgg ggcaaacagg cgtggaccgc ttgtgcaac tctctcaggg ccaggcggtg 2100
 aagggaatc agctgttgc cgtctactg gtgaaaagaa aaaccacctt ggcgcccaat 2160
 acgcaaacgg cctctcccg cgcgttgcc gattcattaa tgcagctggc acgacaggtt 2220
 tccgactgg aaagcgggca gtgagcgcaa cgcaattaat gtaagtagc tcaactatta 2280
 ggcaccggga tctcgaccga tgccttgag agccttaac ccagtcagct cctccgggtg 2340
 ggcgcggggc atgactatcg tgcgcgact tatgactgc ttctttatca tgcaactcgt 2400
 aggacaggtg ccggcagcgc tctgggtcat ttccggcgag gaccgcttc gctggagcgc 2460
 gacgatgac ggctgtgcg ttgcggtatt cggatcttg cagccctcg ctcaagcctt 2520
 cgtcactggt ccgcccacca aacgtttcgg cgagaagcag gccattatcg ccggcatggc 2580
 ggccccacgg gtgcgcatga tctgtctctt gtcgtttagg acccggttag gctggcgggg 2640
 ttgccttact ggttagcaga atgaatcacc gatacgcgag cgaacgtgaa gcgactgctg 2700
 ctgcaaacg tctgcgacct gagcaacaac atgaatggtc ttccggttcc gttttcgtg 2760
 aagcttgga acgcggaagt cagcgccctg caccattatg ttccggtatc gcatcgagg 2820
 atgtctgtgg ctacctgtg gaacacctac atctgtatta acgaagcgtt ggcattgacc 2880
 ctgagtgtt ttctctggt cccgcgcgt ccataccgcc agttgttac cctcacaacg 2940
 ttccagtaac cgggcatgtt catcatcagt aaccggtatc gtgagcatcc tctctgtt 3000
 catcggtatc attacccca tgaacagaaa tccccctac acggaggcat cagtaccaa 3060
 acaggaaaa accgcccata acatggcccg cttatcaga agccagacat taacgcttct 3120
 ggagaaactc acgagcttg acgcggtatga acaggcagac atctgtgaat cgttcacga 3180
 ccacgtgtat gagctttacc gcagctgcct cgcgcgttc ggtgatgacg gtgaaacct 3240
 ctgacacatg cagctcccg agacggtcac agctgtctg taagcggatg ccgggagcag 3300
 acaagcccg caggcgcggt cagcggtgtt tggcggtgtt cggggcgag ccatgacca 3360
 gtcacgtagc gatagcggag tgtacttg cttactatg cggcatcaga gcagattgta 3420
 ctgagagtgc accatatatg cgggtgaaa taccgcacag atgcgtaagg agaaaatac 3480
 gcatcaggcg ctctccgct tctcgtca ctgactcgt gcgctcgtc gttcggtgc 3540
 ggcgagcgg atcagctac tcaaggcgg taatacggtt atccacagaa tcaggggata 3600
 acgcaggaaa gaacatgtga gcaaaaggc agcaaaaggc caggaaacct aaaaaggccg 3660
 cgttctggc gttttccat aggtccgcc cccctgacga gcatcacaaa aatcgacgt 3720
 caagtacag gtggcgaaac ccgacaggac tataagata ccaggcgtt cccctggaa 3780
 gctccctgt gcgtctctt gttccgacct tccgcttac cggatacctg tccgcttc 3840
 tccctcggg aagcgtggcg ctttctata gtcacgctg taggtatct agttcggtg 3900
 aggtcgttc ctcaagctg ggctgtgtc acgaacccc cgttcagccc gaccgtgcg 3960
 cttatccg taactatct cttagtcca acccgtaag acagactta tgcacttg 4020
 cagcagccac tgtaacagg attagcagag cgaggtatg agcggtgct acagagtct 4080
 tgaagtgtg gcctaactac ggctacacta gaaggacagt atttggtatc tgcgtctgc 4140
 tgaagccagt tacctcggg aaaagagttg gtactctt atccggcaaa caaacaccg 4200
 ctgtagcgg tggttttt gttgcaagc agcagattac gcgcagaaaa aaaggatctc 4260
 aagaagatcc ttgatctt tctacgggt ctgacgtca gtggaacgaa aactcacgt 4320
 aagggtttt ggtcatgaga ttatcaaaa ggtatctac ctgactct taaattaaa 4380
 aatgaagtt taaatcaatc taaagtatat atgagtaaac ttgtctgac agttaccaat 4440
 gtttaacag ttaggcacct atctcagcga tctgtctatt tcttcatcc atagttgcct 4500
 gactccccgt cgttagata actacgatac gggagggtt accatctggc ccagtgctg 4560
 caatgatacc gcgagacca cgtcaccgg ctccagattt atcagcaata aaccagccag 4620
 ccggaaggcg cgagcgaga agtggtcctg caacttatc cgcctccatc cagtctatta 4680
 attgttccg ggaagctaga gtaagtgtt cgccagtaa tagttgcgc aacgttgtg 4740
 ccattgctgc aggcacgtg gtgtcacgt cgtcgttg tatggctca ttagctccg 4800
 gttccaacg atcaaggcga gttacatg ccccatgtt gtgcaaaaa gcggttagct 4860
 cttcgggtc tccgatcgt gtcagaagta agtggccgc agtcttatc ctcatggtta 4920
 tggcagact gcaaatct ctactgtca tggcatcgt aagatcctt tctgtactg 4980
 gtgagtact aaccaagta ttctgagaat agtgtatgc gcgaccaggt tgccttgc 5040
 cggcgtcaat acgggataat accgcgccac atagcagaac ttaaaagt ctcatcattg 5100

gaaaacgttc ttggggcgga aaactctcaa gga gctgttgaga tccagttcga 5160
 tgaaccacac tcgtgcaccc aactgatctt cagcat tactttcacc agcgtttctg 5220
 ggtgagcaaa aacaggaagg caaatgccg caaaaaggg aataaggcg acacggaat 5280
 gtgaatact catactcttc cttttcaat attattgaag catttatcag ggttattgtc 5340
 tcatgagcgg atacatattt gaattgattt agaaaaataa acaaataggg gttccgcgca 5400
 cattccccg aaaagtcca cctgaaattg taaacgttaa tattttgtta aaattcgcgt 5460
 taaattttg ttaaatcagc tcattttta accaataggc cgaatcggc aaatccctt 5520
 ataatcaaa agaatagacc gagatagggt tgagtgtgt tccagtttg aacaagagtc 5580
 cactattaaa gaacgtggac tccaacgtca aaggcgcaaa aaccgtctat caggcgcatg 5640
 gccactacg tgaacatca ccctaataa gtttttggg gtcgaggtgc cgtaaagcac 5700
 taaatcgaa ccctaaaggg agccccgat ttagagcttg acggggaag ccggcgaacg 5760
 tggcgagaaa ggaagggaag aaagcgaag gagcgggcgc tagggcgctg gcaagtgtag 5820
 cggtcacgt gcgcgtaacc accacaccg ccgcgctta tgcgccgta caggcgcggt 5880
 cccattcgcc a 5891

<210> 44

<211> 2617

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression vector
 pT7-7-dp-Pt(TME1)

<400> 44

aatttcacg ttgacagct tatcatgat gataagcttg ggctgcaggt cgactctaga 60
 ggatccccg gcgcgaatc ctaagcgtca acaccagcga acagcagcag aacaaccaga 120
 actttagccc agttaccaac catagagaag taagcgatac cagccagaac accccagtga 180
 gcaccagcga tcgggtccat atgtatatct ctttctaaa gtttaacaaa attatttcta 240
 gagggaaacc gttgtggtct ccctatatgt agtcgtatta attcgaagt ctatcagaag 300
 ttcaatcgc tgggcctcgc gcgtttcggg gatgacgggtg aaaacctctg acacatgcag 360
 ctcccgagga cggtcacagc ttgtctgtaa cgggatgccg ggagcagaca agcccgtag 420
 ggcgcgtag cgggtgttgg cgggtgtcgg ggcgagcca tgaccagtc acgtagcgat 480
 agcggagtg atatactggc ttaactatgc ggcacagag cagattgtac tgagagtga 540
 ccataggaag atcttcgga agatcttct atgcggtgtg aaataccgca cagatgcgta 600
 aggagaaaa accgcacag gcgctctcc gcttctcgc tactgactc gctgcgctc 660
 gtcgttcggc tgcggcagc ggtatcagct cactcaaagg cggtaatag gttatccaca 720
 gaatcagggg ataacgcagg aaagaacatg tgagcaaaag gccagcaaaa ggccaggaac 780
 cgtaaaaagg ccgcgttgcg ggcgttttc cataggctcc gccccctga cgagcatcac 840
 aaaaactgac gctcaagtc gaggtggcga aaccgacag gactataaag ataccaggcg 900
 ttccccctg gaagctccct cgtgcgctc cgtgttccga cctgccgct taccggatac 960
 ctgtccgct tctccctc gggaagcgtg gcgtttctc aatgctcac ctgtaggtat 1020
 ctcaattcgg ttaggtcgt tcgtccaag ctgggctgtg tgcacgaacc ccccgtag 1080
 cccgaccgt gcgccttat cgtaactat cgtctgagt ccaaccggt aagacacgac 1140
 ttatcgccac tggcagcagc cactgtaac aggattagca gagcgaggta ttagggcgt 1200
 gctacagagt tctgaagtg gtggcctaac tacggctaca ctagaaggac agtatttgg 1260
 atctgcgctc tctgaagcc agttacctc ggaaaaagag ttgtagctc ttgaccggc 1320
 aaacaaacca ccgctgtag cgggtggttt ttgtttgca agcagcagat tacgcgcaga 1380
 aaaaaggat ctcaagaaga tctttgatc tttctacgg ggtctgacgc tcagtggaa 1440
 gaaaactcac gtaagggat ttgtgtcatg agattatcaa aaaggatctt cacctagatc 1500
 ctttaattc ttgaagcga aagggcctcg tgatacgct attttatag gttaatgtca 1560
 tgataataat ggtttctag acgtcaggtg gcactttcg gggaaatgt cgcggaacc 1620
 ctatttgtt attttctaa atacattcaa atatgtatcc gctcatgaga caataacct 1680
 gataaatgt tcaataat tgaaaaagga agagtatgag tattcaacat ttccgtgtc 1740
 cccttatcc ctttttgcg gcattttgc ttctgttt tgctaccca gaaacgctg 1800
 tgaaagtaaa agatgctgaa gatcagttg gtgcacagat gggttacac gaactggatc 1860
 tcaacagcgg taagatcctt gagagtttc gcccgaaga acgtttcca atgatgagca 1920
 ctttaagt tctgtatgt ggcgcggtat tatcccggt tgacgccgg caagagcaac 1980
 tcggtcgcc catacactat tctcagaatg acttggtga gtactacca gtcacagaaa 2040
 agcatctac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagt 2100
 ataactcgc ggccaacta ctctgacaa cgatcgagg accgaaggag ctaaccgctt 2160
 tttgcacaa catggggat catgtaact gccttgatc ttgggaacc gagctgaatg 2220

aagccatacc aaacgacgag cgtgacacca cgtgagcgt agcaatggca acaacgttgc 2280
gcaaactatt aactggcgaa ctactactc tagcttccg gcaacaatta atagactgga 2340
tggaggcgga taaagtgtca ggaccacttc tgcgtcggc cctccggct ggctggtta 2400
ttgctgataa atctggagcc ggtgagcgtg ggtctcggg tatcattgca gcaactgggc 2460
cagatggtaa gcctccctgt atcgtagtta tctacacgac ggggagtcag gcaactatgg 2520
atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaactgt 2580
cagaccaagt ttactcatat atactttaga ttgattt 2617

<210> 45

<211> 2599

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: expression vector
pT7-7-dp-Pt(TME2)

<400> 45

aattctcatg tttagacagt tatcatgat gataagcttg ggctgcaggc cgactctaga 60
ggatccccgg gcgcgaattc ctaagcttca gcctgagaga tcagcagcat catccacagg 120
caagagcaaa cacgagcgtc agccagcagc aggaacagca gaacaacgta ttccgggttc 180
atatgtatat ctcttctta aagttaaaca aaattatttc tagagggaaa ccgttggtgt 240
ctccctatag tgagtcgat taatttcgaa gtctatcaga agttcgaatc gctgggcctc 300
gcgcgtttcg gtgatgacgg tgaacacctc tgacacatgc agctcccgga gacggtcaca 360
gcttctctgt aagcggatgc cgggagcaga caagcccgtc agggcgcgtc agcgggtgtt 420
ggcgggtgtc ggggagcagc catgaccagc tcacgtagcg atagcggagt gtatatctg 480
gcttaactat cgggcatcag agcagattgt actgagagt caccatagga agatcttccg 540
gaagatcttc ctatcggtg tgaataaccg cacagatgag taaggagaaa ataccgcatc 600
aggcgctctt ccgcttctc gctcactgac tcgctgcgct cggctgttcg gctgcggcga 660
gcggtatcag ctcaactaaa ggcggtaata cggttatcca cagaatcagg ggataacgca 720
ggaaagaaca tgtgagcaaa agggcagcaa aaggccagga accgtaaaaa ggccgcgttg 780
ctggcggttt tccataggt ccgccccct gacgagcatc acaaaaatcg acgtcaagt 840
cagaggtggc gaaacccgac agactataa agataccagg cgttcccc tggaaagctc 900
ctcgtgcgct ctctgttc gaccctgcc cttaccggat acctgtccgc ctttccct 960
tcgggaagcg tggcggttc tcaatgctca cgctgtaggt atctcagttc ggtgtaggtc 1020
gttcgtcca agctgggctg tgtgcacgaa cccccggtc agcccgaccg ctgcgctta 1080
tccgtaact atcgtcttga gtccaacccg gtaagacacg acttatgcc actggcagca 1140
gccactggtg acaggattag cagagcgagg tatgtaggcg gtgctacaga gttctgaag 1200
tggtggccta actacggcta cactagaagg acagtatttg gtatctgcgc tctgtgaag 1260
ccagtacct tcggaaaaag agttggtagc tcttgatccg gcaacaaac caccgctggt 1320
agcgttggtt ttttgttg caagcagcag attacgcgca gaaaaaagg atctcaagaa 1380
gatccttga tctttctac ggggtctgac gctcagtga acgaaaactc acgttaaggg 1440
attttggtca tgagattatc aaaaaggatc ttacctaaga tcttttaaat tctgaagac 1500
gaaagggcct cgtgatacgc ctattttat aggttaattg catgataata atggttctt 1560
agacgtcagg tggcactttt cggggaaatg tgcgcggaac ccctatttgt ttattttct 1620
aaatacatc aaatatgtat ccgctcatga gacaataacc ctgataaatg cttaataat 1680
attgaaaaag gaagagtatg agtattcaac atttccgtgt cgccttatt ccctttttg 1740
cggcattttg ctttctgtt ttgtcacc cagaaacgct ggtgaaagta aaagatgctg 1800
aagatcagtt ggtgacgca gtgggttaca tcgaactgga tctcaacagc ggtaagatcc 1860
ttgagagttt tcgccccgaa gaacgttttc caatgatgag cacttttaaa gttctgctat 1920
gtggcgcggt attatccgtt gttgacgccc ggcaagagca actcgggtcgc cgcatacact 1980
attctcagaa tgacttggtt gactactcac cagtcacaga aaagcatctt acggatggca 2040
tgacagtaag agaattatgc agtgctgcca taaccatgag tgataaactc gcggccaact 2100
tacttctgac aacgatcgga ggaccgaagg agctaaccgc tttttgac aacatggggg 2160
atcatgtaac tcgcttgat cgttgggaac cggagctgaa tgaagccata ccaaacgacg 2220
agcgtgacac caccatgcct gtagcaatgg caacaacgtt gcgcaaaacta ttaactggcg 2280
aactacttac tctagcttc cggcaacaat taatagactg gatggaggcg gataaagttg 2340
caggaccact tctgcgctc gcccttccg ctggctggtt tattgctgat aaatctggag 2400
ccggtgagcg tgggtctgc ggtatcattg cagcactggg gccagatggt aagccctccc 2460
gtatcgtagt tatctacagc acggggagtc aggcaactat ggatgaacga aatagacaga 2520
tcgctgagat aggtccctca ctgattaagc attgtaact gtcagaccaa gtttactcat 2580
atatactta gattgattt 2599

<210> 46
<211> 271
<212> PRT
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: fusion protein
GST-DP-TME1

<400> 46
Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15
Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30
Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45
Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp Gly Asp Val Lys
50 55 60
Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80
Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95
Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110
Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125
Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140
Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160
Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175
Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190
Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205
Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Leu Ser Gly Gly
210 215 220
Gly Gly Gly Leu Val Pro Arg Gly Ser Asp Pro Ile Ala Gly Ala His
225 230 235 240
Trp Gly Val Leu Ala Gly Ile Ala Tyr Phe Ser Met Val Gly Asn Trp
245 250 255
Ala Lys Val Leu Val Val Leu Leu Leu Phe Ala Gly Val Asp Ala
260 265 270

<210> 47
<211> 265
<212> PRT
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: fusion protein
GST-DP-TME2

<400> 47
Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15
Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30
Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45
Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp Gly Asp Val Lys
50 55 60
Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80
Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95
Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110
Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125
Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140
Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160
Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175
Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190
Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205
Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Leu Ser Gly Gly
210 215 220
Gly Gly Gly Leu Val Pro Arg Gly Ser Asp Pro Glu Tyr Val Val Leu
225 230 235 240
Leu Phe Leu Leu Leu Ala Asp Ala Arg Val Cys Ser Cys Leu Trp Met
245 250 255
Met Leu Leu Ile Ser Gln Ala Glu Ala
260 265

<210> 48
<211> 170
<212> PRT
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: fusion protein
TrX-DP-TME1

<400> 48
Met Ser Asp Lys Ile Ile His Leu Thr Asp Asp Ser Phe Asp Thr Asp
1 5 10 15
Val Leu Lys Ala Asp Gly Ala Ile Leu Val Asp Phe Trp Ala Glu Trp
20 25 30
Cys Gly Pro Cys Lys Met Ile Ala Pro Ile Leu Asp Glu Ile Ala Asp
35 40 45
Glu Tyr Gln Gly Lys Leu Thr Val Ala Lys Leu Asn Ile Asp Gln Asn
50 55 60
Pro Gly Thr Ala Pro Lys Tyr Gly Ile Arg Gly Ile Pro Thr Leu Leu
65 70 75 80
Leu Phe Lys Asn Gly Glu Val Ala Ala Thr Lys Val Gly Ala Leu Ser
85 90 95
Lys Gly Gln Leu Lys Glu Phe Leu Asp Ala Asn Leu Ala Gly Ser Gly
100 105 110
Ser Gly Ser Pro Lys Ser Asp Leu Ser Gly Gly Gly Gly Gly Leu Val
115 120 125
Pro Arg Gly Ser Asp Pro Ile Ala Gly Ala His Trp Gly Val Leu Ala
130 135 140
Gly Ile Ala Tyr Phe Ser Met Val Gly Asn Trp Ala Lys Val Leu Val
145 150 155 160
Val Leu Leu Leu Phe Ala Gly Val Asp Ala
165 170

<210> 49
<211> 161
<212> PRT
<213> Artificial sequence

<220>
<223> Description of the artificial sequence: fusion protein
TrX-DP-TME2

<400> 49
Met Ser Asp Lys Ile Ile His Leu Thr Asp Asp Ser Phe Asp Thr Asp
1 5 10 15
Val Leu Lys Ala Asp Gly Ala Ile Leu Val Asp Phe Trp Ala Glu Trp
20 25 30
Cys Gly Pro Cys Lys Met Ile Ala Pro Ile Leu Asp Glu Ile Ala Asp
35 40 45

Glu Tyr Gln Gly Lys Leu Thr Val Ala Leu Asn Ile Asp Gln Asn
50 55 60

Pro Gly Thr Ala Pro Lys Tyr Gly Ile Arg Gly Ile Pro Thr Leu Leu
65 70 75 80

Leu Phe Lys Asn Gly Glu Val Ala Ala Thr Lys Val Gly Ala Leu Ser
85 90 95

Lys Gly Gln Leu Lys Glu Phe Leu Asp Ala Asn Leu Ala Gly Ser Gly
100 105 110

Ser Gly Ser Asp Leu Ser Gly Gly Gly Gly Leu Val Pro Arg Gly
115 120 125

Ser Asp Pro Glu Tyr Val Val Leu Phe Leu Leu Leu Ala Asp Ala
130 135 140

Arg Val Cys Ser Cys Leu Trp Met Met Leu Leu Ile Ser Gln Ala Glu
145 150 155 160

Ala

<210> 50

<211> 39

<212> PRT

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: fusion protein
M-DP-TME1

<400> 50

Met Asp Pro Ile Ala Gly Ala His Trp Gly Val Leu Ala Gly Ile Ala
1 5 10 15

Tyr Phe Ser Met Val Gly Asn Trp Ala Lys Val Leu Val Val Leu Leu
20 25 30

Leu Phe Ala Gly Val Asp Ala
35

<210> 51

<211> 33

<212> PRT

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: fusion protein
M-DP-TME2

<400> 51

Met Asp Pro Glu Tyr Val Val Leu Leu Phe Leu Leu Leu Ala Asp Ala
1 5 10 15

Arg Val Cys Ser Cys Leu Trp Met Met Leu Leu Ile Ser Gln Ala Glu
20 25 30

Ala

<210> 52
<211> 239
<212> PRT
<213> Artificial sequence

<220>
<223> Description of the artificial sequence:
glutathion transferase (GST)

<400> 52
Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15
Thr Arg Leu Leu Leu Glu Tyr Leu Glu Lys Tyr Glu Glu His Leu
20 25 30
Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45
Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp Gly Asp Val Lys
50 55 60
Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80
Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95
Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110
Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125
Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140
Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160
Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175
Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190
Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205
Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Leu Ser Gly Gly
210 215 220
Gly Gly Gly Leu Val Pro Arg Gly Ser Pro Gly Ile His Arg Asp
225 230 235

<210> 53
<211> 170
<212> PRT
<213> Artificial sequence

<220>

<223> Description of the artificial sequence:
thioredoxine (TrX)

<400> 53

Met Ser Asp Lys Ile Ile His Leu Thr Asp Asp Ser Phe Asp Thr Asp
1 5 10 15

Val Leu Lys Ala Asp Gly Ala Ile Leu Val Asp Phe Trp Ala Glu Trp
20 25 30

Cys Gly Pro Cys Lys Met Ile Ala Pro Ile Leu Asp Glu Ile Ala Asp
35 40 45

Glu Tyr Gln Gly Lys Leu Thr Val Ala Lys Leu Asn Ile Asp Gln Asn
50 55 60

Pro Gly Thr Ala Pro Lys Tyr Gly Ile Arg Gly Ile Pro Thr Leu Leu
65 70 75 80

Leu Phe Lys Asn Gly Glu Val Ala Ala Thr Lys Val Gly Ala Leu Ser
85 90 95

Lys Gly Gln Leu Lys Glu Phe Leu Asp Ala Asn Leu Ala Gly Ser Gly
100 105 110

Ser Gly Ser Pro Lys Ser Asp Leu Ser Gly Gly Gly Gly Gly Leu Val
115 120 125

Pro Arg Gly Ser Asp Pro Ile Ala Gly Ala His Trp Gly Val Leu Ala
130 135 140

Gly Ile Ala Tyr Phe Ser Met Val Gly Asn Trp Ala Lys Val Leu Val
145 150 155 160

Val Leu Leu Leu Phe Ala Gly Val Asp Ala
165 170